SHORT-TERM EFFECTS ON EMPLOYEE ATTITUDES OF THE INTRODUCTION OF MANAGEMENT BY OBJECTIVES: AN EMPIRICAL STUDY IN A LOCAL GOVERNMENT

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SUMMARY

MBO (Management by Objectives) has been implemented in numerous organizations during the twenty years since Peter Drucker introduced "Management by Objectives and Self Control" in his 1954 book, The Practice of Management. Many claims have been made as to the benefits of MBO: improved results, greater profits, better communications, improved employee attitudes, etc. The major support for such claims takes the form of case studies of organizations in which MBO has been implemented. Published empirical research is limited to a few studies, most of which involved a small number of variables such as satisfaction with the MBO program, goal clarity, and perceived need satisfactions of participants.

Various writers have indicated the need for more definitive empirical research on MBO and have pointed out the potential of such studies for integrating theoretical approaches to the motivational consequences of goal setting and participation, communications, and leadership. Although the empirical research on these separate topics is extensive, research on the integration of the variables into a larger set is minimal, or non-existent.

The research reported here uses a quasi-experimental approach to determining the short-term effects on employee attitudes of the introduction of MBO. A number of variables,

including job motivation, job satisfaction, identification with the organization, and work innovation are used to measure the attitudinal effects of the introduction of MBO. Moderator variables include length of service, perceived emphasis by higher levels, individual performance rating, participation, organizational profile, job interdependence, organizational level, and feedback, as well as individual internal-external control beliefs.

Five divisions or departments within a local county government serve as treatment groups. Four non-treated divisions within treated departments and one non-treated department serve as controls. Total number of employees in the groups was 300, of whom 256 returned questionnaires. Questionnaire measures, interviews, Rotter's Internal-External Orientation Scale, and individual employee performance ratings by department managers are utilized. Groups-by-trials analysis of variance is the basic data analysis technique. The measures include both new scales developed for this research and standard measures as developed by Likert, Patchen, Lawler, and others.

Pretreatment data was gathered during the period from November, 1972 to February, 1973. MBO training was provided by outside trainers during the period from February to June, 1973, and post-treatment measures were obtained during August and September, 1973. A minimum amount of feed-back on respondents' perceptions of organizational climate was

provided to all participating groups, both treatment and control, following the initial questionnaire administration and retest.

The experimental treatment consisted of a one-day MBO training seminar conducted by outside trainers for four of the treatment groups and supervisory-training seminars, which included MBO, conducted by the county training officer in the fifth treatment group. Of the four treatment groups trained by outside MBO trainers, all employees of one department were trained, all supervisory and professional employees of the two divisions second, and one division of the third department were trained. All treatment groups engaged in on-the-job implementation of MBO concepts following the formal training sessions.

Hypotheses are developed based on the literature on MBO, job satisfaction, motivation, goal setting, organizational climate, and internal-external control. The research will contribute to available knowledge of the short-term effects on employee attitudes of the introduction of MBO.

Included in the findings are the following results of introducing MBO into the local government groups studied:

1. Job motivation decreased significantly more in the treated groups than in the control groups during the six month time period of the research, while work innovation did not decrease in the treatment group as it did in the control group. Organizational identification and job satisfaction

did not change.

2. Individuals with internal control beliefs react more favorably on the four dependent variables to the introduction of MBO than do individuals with external control beliefs.

3. Other individual difference measures found to moderate the effects of the introduction of MBO on one or more of the dependent variables included education, length of service in the organization, individual performance ratings, acceptance of job change, and organizational level.

4. Likert's organizational profile measure was the single organizational difference measure moderating the effects of the treatment. Individuals perceiving their organization to be System 1 or System 2 at the start of the study reported increases on the dependent variables, while individuals who initially perceived their organization to be System 4 reported decreases.

5. The effects of the introduction of MBO on one or more of the dependent variables were also moderated by perceived emphasis on objectives by higher levels, frequency of feedback, the association of rewards with performance, and clarity of objectives.

In addition to the primary findings, secondary findings relating the moderator variable levels to the dependent variable levels are presented.

CHAPTER I

INTRODUCTION AND MBO LITERATURE SURVEY

Introduction

Management by Objectives has been a popular approach to managing organizations for almost 20 years. MBO was introduced by Peter Drucker (1954) in "Management by Objectives and Self-Control." The MBO concept received further support from Douglas McGregor (1960) who suggested in his Theory Y that "Men will exercise self-direction and self-control toward achieving objectives to which they are committed," and "Commitment to objectives is a function of the rewards associated with their achievement." (McGregor, 1960)

MBO Defined

Drucker (1954) claimed that MBO resulted in the substitution of internal control for external control. George L. Morrisey (1970) describes Management by Objectives as a professional approach to management with primary emphasis upon the functions of planning and controlling. MBO is designed to determine what must be done, how much it will cost, what constitutes satisfactory performance, how much progress is being achieved, and when and how to take

corrective action.

John W. Humble calls MBO a dynamic system which seeks to integrate the company's need to clarify and achieve its profit and growth goals with the manager's need to contribute and to develop himself. Humble suggests that MBO is a demanding and rewarding style of managing a business (Humble, 1968).

Discussing the process of MBO, Charles L. Hughes (1965) claims that if management makes company goals known to the employees and provides opportunities for employees to participate meaningfully in meeting these objectives in a way that gives employees a chance for achieving personal goals, then the motivation to work that results will achieve company goals as well as personal goals.

A National Industrial Conference Board report (1966) comments that MBO seems to have taken the business world by storm. It concludes, "Management by Objectives, seen purely as an appraisal mechanism, may not live up to its claims. When the appraisal aspects are integrated into an approach to planning and control it has proved extremely useful. It may uncover serious problems that a firm has to tackle, but it often provides a tool for solving them. And it seems to motivate managers to high performance." (NICB, 1966)

Schrieber and Sloan (1970) define MBO as a management process by which work is organized in terms of achieving specific objectives by set times. Most authors seem to

agree that MBO is a managerial method whereby the superior and subordinate jointly identify, in writing, major functional areas of responsibility for the subordinate, including objectives to be accomplished in terms of results, and determine how and by what time these standards should be achieved so that the superior and the subordinate can periodically evaluate progress. This definition corresponds closely to that of Odiorne (1965), who describes MBO as a general process in which "...the superior and the subordinate manager of an organization jointly define its common goals, define each individual's major areas of responsibility in terms of the results expected of him and use these measures as guides for operating the unit and assessing the contribution of each of its members." (Odiorne, 1965)

With one difference the Odiorne definition accurately depicts the MBO approach introduced into the organizations with which this research is concerned. The organizations involved in this research do not stop with the lowest levels of management. Rather, MBO is extended to include the involvement of non-management as well as management in the goal setting and objectives setting process. Thus, for purposes of this research Management by Objectives is defined to be a process of management of an organization in which:

1. Superiors and subordinates within the organization interact in the defining of organizational goals.
2. Superiors and immediate subordinates, both management and non-management, jointly define the

subordinate's major areas of responsibility in terms of results expected of him.

3. The objectives developed in (2) are used as guides for operating the organizational unit.

4. The contribution of each member of the organization is assessed in terms of his accomplishment of his objectives.

For all the simplicity of the definition MBO is a complex process which is not well understood. The literature is filled with claims for, and criticisms of, the process. Very little scientifically-based research has been done in assessing the effects of MBO. The descriptive and prescriptive literature, based largely on personal experience and conjecture, or at best on case studies, neither adequately explains why the process produces the results it does nor is it consistent in its predictions of results.

Based upon a review of the limited amount of empirically based research on MBO, Ivancevich has concluded that "A vital question is whether MBO has been able to accomplish the planning, controlling, and motivational objectives claimed by its advocates. From a scientific and empirical point of view this question is yet unanswered." (Ivancevich, 1972, page 126).

Purpose of the Research

The research presented here attempts to integrate the results of the small amount of empirical research which has been done on MBO with some relevant findings from other areas

of research dealing with topics such as goal setting, job satisfaction, motivation, organizational climate, and one potentially important aspect of individual difference--internal-external control beliefs. A model is developed which treats MBO introduction as the independent variable and job satisfaction, job motivation, work innovation, and organizational identification as the dependent variables. The model includes as potential moderating variables six individual difference measures: the acceptance of change by organizational members; the internal-external control beliefs of members; the individual performance ratings of members; and members' education, length of service, and organizational level. Organizational difference measures include the individual's perceived job interdependence, his perceived job influence, and a profile of organizational characteristics. Variables expected to change during the process itself and tested as MBO process-related moderators include influence in objectives setting; frequency of feedback; emphasis on objectives by higher levels of organization; clarity of objectives; difficulty of objectives; and the perceived relationship between objectives performance and rewards.

This research reports only the testing of the model over the short term, but the research provides a base for testing the longitudinal effects of MBO, including effects on group and individual performance. Quasi-experimental methods are used in testing the model. This research is believed to

be the first attempting to measure experimentally the effects of MBO on a number of key variables and also test the moderating effects of a number of important process variables.

The model to be tested is based on the MBO literature with emphasis on the limited empirical findings and on applicable areas of psychological and organizational research. The MBO literature will be reviewed in the following sections of this chapter, proceeding from the prescriptive literature to single-case studies, and finally to more systematic empirical studies. References to topics treated in other literature will be made in the second chapter.

MBO--Normative Literature

A summary of an extensive review of the MBO literature is provided by Table 1. Organization of the summary is based on (1) separating normative, case study, and statically-based empirical research; (2) indicating which articles claim positive or negative effects of MBO on key variables; and (3) indicating which articles mention moderating variables or conditions and the predicted composite effects of such variables on key dependent variables. That is, the table is organized in a parallel manner to the MBO model presented in the next chapter.

In addition to the summary data, variables cited as important in the normative or empirical MBO literature are briefly discussed in the balance of this section.

Table 1. Summary of Variables Identified in MBO Literature

KEY:

* N = Normative
C = Case study
E = Statistically-based empirical

** + = Enhanced
O = May or may not enhance

*** R = Classified as result of MBO
? = May not be needed
X = Not needed
Y = Needed for success of MBO

Source	Literature Type*	Dependent Variables**					Moderating Variables***										
		Job Motivation	Job Satisfaction	Work Innovation	Organization Identification	Communication	Top Level Integration	Feedback	Job Interdependence	Participation	Performance-Rewards Tie	Organizational Climate	Individual Differences	Organizational Level	Receptivity to Change	Job/Personal Objs Balance	Objectives Clarity
Drucker (1954)	N	+	+	+	+		Y	Y	Y	Y		Y				Y	Y
Schleh (1959)	N	+		+			Y		Y	?							Y
Shapton (1959)	N,O	O				R	Y	Y	Y	Y				Y			Y
McGregor (1960)	N	+	+					Y		Y	Y	Y					
Hughes (1965)	N	+	+				Y			Y						Y	Y
Meyer, Kay, French (1965)	E	+	+	+													
Odiorne (1965)	N,O	+		+		Y	Y	Y	Y	Y	Y						Y
Raia (1965,1966)	E	O	+	+		R	Y	Y		Y	Y						
Howell (1967,1970)	N	O	O		+	R	Y	Y	Y	Y						?	
Humble (1968)	N,O		+	+			Y									Y	
Olsson (1968)	N,O		+														
Wikstrom (1968)	N,O	+		+	+	R	Y	Y	Y	Y		R		Y			Y
Baxter (1969)	C	+					Y	Y		Y	X						
Frank (1969)	C	+				R		Y		Y						Y	
Bieser (1970)	N,O	+	+				Y	Y	Y	Y	Y			Y		Y	Y
Bass & Deep (1970)	N	+				Y		Y	Y		Y	Y				Y	
Carroll & Tosi (1970)	E	+	+	+		Y	Y	Y		Y	Y	Y	Y	Y		Y	Y
Ivancevich, Donnelly & Lyon (1970)	E	+	+				Y			Y				Y			
Levinson (1970,1972)	N	O	O		O	Y			Y	Y	?	Y	Y	Y		Y	
Morrissey (1970)	N						Y									Y	
Myers (1970)	C,N	+	+														
Sloan & Schrieber (1970)	N	O	O			Y	Y			Y		Y	Y		Y		
Wall (1970)	N	+				Y		Y	Y			Y	Y			Y	
Chesser (1971)	E		+				Y	Y		Y	Y		Y				Y
Beck & Hillmar (1972)	N,C	+	+	+		R	Y	Y		Y	Y	Y	Y			Y	Y
Carvalho (1972)	N	+	+			Y	Y		Y	Y	Y	Y		Y	Y		Y
Ivancevich (1972)	E	O	O				Y	Y		Y							
Kirchhoff (1972)	E											Y					
Kleber (1972)	N	+		+		Y	Y		Y	Y	Y	Y				Y	
Koontz (1972)	N	+				Y	Y	Y	Y	Y							Y
Mahler (1972)	N,C	+	+	+		Y	Y	Y		Y	Y			Y		Y	
McConkey (1972,1973)	N,C	+	+	+	+		Y	Y		Y	Y			Y			Y
Mollander (1972)	N,C	O	O					Y		Y		Y		Y			
Schuster (1972)	N	O					?	Y		?	?	?				Y	
Strauss (1972)	N,C	O	O	O		R	Y			?	Y	Y				Y	Y
Varney (1972)	N	+	+	+				Y	Y	Y		Y	Y		Y	Y	Y
Wohlking (1972)	N										Y					Y	Y
Brady (1973)	N,C		O			R	Y	Y				X					Y
Duncan (1973)	N							Y		Y				Y			Y
Hetland (1973)	N	+		+		Y		Y	Y							Y	Y
Murray (1973)	N	+				R		Y		Y							Y

Effects on Employee Motivation

A positive impact on employee motivation is the most frequent and, perhaps the most important, claim made for MBO. Drucker (1954) bases his prescription of "Management by Objectives and Self-Control" on the motivational results of self-control of activities. Levinson (1972) on the other hand, warns that the reward-punishment motivational philosophy that may be generated by MBO may be psychologically damaging.

Participation in the MBO goal-setting process is claimed as the motivating aspect of MBO by some (e.g. Drucker, 1954; McGregor, 1960). Others (e.g. Cook, 1968) maintain that feedback on objectives performance is the motivator, and cite psychological research to support their contention. Whatever the explanation employed as to why MBO enhances motivation, the predominant view expressed in the normative literature is that enhanced employee motivation does result from Management by Objectives.

Job Satisfaction

The positive effects of MBO on job satisfaction are emphasized less frequently than are the motivational effects. Some authors, such as Levinson (1970, 1972), even caution that MBO may result in dissatisfied employees. Most predictions concerning effects on job satisfaction are positive, however, in both the normative and empirical literature.

Work Innovation

Raia (1965, 1966), drawing on empirical research,

makes a strong claim that MBO results in increased work innovation. Some writers in the normative literature also mention innovation as a result of MBO. (Odiorne, in fact, includes "innovative" as one of his three classes of objectives which should be considered, thus including innovation directly in the treatment itself, rather than in its beneficial consequences.)

Organizational Identification

Specific references to higher levels of organizational identification were not found in the normative literature. Implied in the discussions of a number of writers (for example, Howell, 1965, 1970) was an increase in individual identification with his organization resulting from MBO. Patchen (1965) defines organizational identification as meaning a sense of solidarity, or common interest and purpose, with other members of the organization, especially with top leaders. Using Patchen's definition, increased organizational identification is implied in the prescription of many normative writers that individual objectives support organizational goals, that top levels of management must be directly involved in the MBO process, etc.

Moderating Variables

It is often difficult to determine from the normative literature whether variables discussed in connection with the MBO process are being viewed as dependent, intervening, or moderating variables. Improved communication is suggested

by some (e.g. Beck and Hillmar, 1972) as being a result of MBO, while others treat it as intervening between the MBO process and end results such as motivation. Others (e.g. Strauss, 1972) view good communication as necessary in order to introduce MBO, and in that sense, as a moderator of the effectiveness of MBO introduction.

Organizational climate and managerial style are variously considered: as changing as a result of MBO (e.g. Wikstrom, 1968); as required to be supportive in order for MBO to succeed (e.g. Odiorne, 1965); as leading to the introduction of MBO (e.g. Beck and Hillman, 1972); or as not mattering. Brady (1973) argues that MBO should be tied to the style of the chief executive, whatever his style might be. For purposes of this research, climate at the time of introducing MBO will be treated as a moderating variable, but it might just as well have been considered as a resulting variable.

Most writers see top level involvement in the process as essential to the success of MBO, although disagreement exists as to whether objectives-setting should be top-down or bottom-up. Top level involvement is seen as synonomous with organization-wide integration of goals and objectives by most authors.

Other variables seen as moderating MBO success include meaningful feedback (Odiorne, 1965), degree of participation (Drucker, 1954); Odiorne, 1965), job and objectives

interdependence (Schleh, 1959), the perceived tie between performance and rewards (Kleber, 1972), personality variables (Levinson, 1970, 1972), organizational level (Mollander, 1972), receptivity to change (Sloan and Schrieber, 1970), the balance between personal and performance objectives (Hughes, 1965), and goal clarity (Wohlking, 1972). Beck and Hillmar (1972, page 232) claim that "Without true participation the MBO/R process does not take place. Giving employees a 'sense of participation' is not enough. That attitude toward participation is manipulative and the participants know it." Participation is viewed by many writers as the key to the motivational benefits of MBO. Others (Strauss, 1972), see participation as unnecessary or infeasible.

Because the early applications of MBO were as a performance appraisal system rather than as a system of managing, most of the MBO literature suggests that feedback and the relationship between performance and reward have strong effects on the success of MBO implementation. Baxter (1969), however, views MBO as being more successful if salary is not tied directly to performance appraisal.

Summary

This brief review of the normative literature on MBO reveals a major difficulty in even identifying key variables which are involved in the MBO process, much less in drawing conclusions, or even in formulating meaningful hypotheses. Nevertheless, based on the normative literature the following

variables are suggested as meaningful for consideration in a study of the attitudinal effects of the introduction of MBO:

Dependent Variables:

1. Job Satisfaction
2. Job Motivation
3. Work Innovation
4. Organizational Identification

Moderating Variables:

1. Individual Differences, such as receptivity to change
2. Organizational Differences
   a. Climate
   b. Job Interdependence
   c. Job Influence
3. MBO Process-Related Differences
   a. Top Level Emphasis
   b. Feedback
   c. Participation in Setting Objectives
   d. Association Between Rewards and Objectives Performance
   e. Objectives Clarity

Other variables are added to the list of moderators based on review of the MBO empirical literature and consideration of other research relevent to the four dependent variables identified above. Review of the MBO empirical literature follows. Other research is reviewed in connection with hypothesis development in Chapter II.

MBO Case Study Literature

Case studies provide stronger support for claims made by proponents of MBO, although case study data does not give rigorous scientific support of causality. It is difficult to establish that outcomes resulted from introducing

MBO, when other possible causal influences are not controlled. Only a true experiment provides a high level of confidence that the variable of interest was the cause of the observed outcomes. Nevertheless, carefully conducted case studies provide some empirical test of the claims of the purely prescriptive literature. Accordingly, a number of case studies are here reviewed.

John W. Humble (1968) presents case studies of MBO introduction into three European companies: KLM Royal Dutch Airlines, Laporte Industries Ltd., and Smiths Industries Ltd. Based on pilot studies and limited initial introduction of MBO, KLM top management determined to extend MBO throughout the field organization worldwide. Comparison of KLM organizations using MBO with those which were not revealed a number of differences. In countries which were already using MBO, sales and profitability were good. Areas for improvement had been identified and action plans implemented. Managers had a clearer, better sense of direction as to what was to be achieved. Better performance reviews were made possible, and unexpected potential identified. Attitudes among managers improved--instead of regarding themselves essentially as high level salesmen, they viewed themselves primarily as managers.

The Laporte Industries case study described how MBO enabled the company's subsidiary, Fullers' Earth Union Limited, to overcome a serious operating situation which had

arisen during the early 1960's and reestablish satisfactory profitability over the next two to three years. Morale, sense of purpose and confidence throughout the management group increased vastly, and decisions were taken more effectively at lower levels. Better forward planning was realized, the link between company and individual objectives improved, and reviews provided valuable feedback of difficulties. There was more company-wide thinking and less parochialism. "Finally, not the least important lesson learned in this exercise was that the ability to analyse the facts of the case and to plan change, and the ability to implement the plan was present in the management team. Crystallizing all this into the successful results achieved was largely due to the guidance given by the consultants and to the eventual adoption at all levels of clearly defined objectives." (Humble, 1968, page 153)

MBO in Smiths Industries Ltd. started with an attempt to improve individual manager performance by target setting, and evolved into a full-blown MBO program. To achieve goal performance, Smiths Industries found that objectives must be broken down into definite actions to be taken by named units and managers by specified times, and that the actions themselves must be carefully monitored and controlled. The really big pay-off from introducing MBO was increased individual efficiency and enthusiasm of the managers themselves. Manager's attitudes toward their jobs improved, and

excellent team spirit was engendered (Humble, 1968).

Rodney H. Brady (1973) reviewed the experience of the Department of Health, Education, and Welfare (HEW) in making MBO operational. He claimed that despite the absence of the profit motive present in the private sector, differences in approaches to management are heavily outweighed by the similarities. The similarities are especially strong in the application of MBO. Brady described how MBO made HEW more manageable, and resulted in improved HEW performance. He claims that MBO must be tailored to the chief executive's style of managing if it is to be successful. HEW learned that MBO would work, and that it has applicability to many other large, public-sector organizations which can overcome three problems: (1) defining objectives, (2) measuring benefits, and (3) the operating cycle of public sector organizations.

Edward R. Frank (1969) presents a case study of the introduction of an MBO program in a research and development laboratory. The objectives of introducing the program were to improve R & D, and to accelerate the management training of highly educated, technically-trained individuals. The major value of the program was in the improvement in organization and self-motivation rather than in control or performance evaluation. Planning and communications improved, as did support and commitment from all involved people. There was more participation in planning and decision making

activity among the professional staff, and many individuals were anxious to establish a concrete basis for evaluation of results of their activities. The MBO program was not welcomed by all, but the number of objections was small in comparison with the benefits.

Olsson (1968) makes a case for the applicability of MBO to small and medium sized organizations, based on ten years' applications of MBO concepts in his enterprise, a medium-sized, nonprofit hospital. He claims increased satisfaction for personnel and managers, increased effectiveness of board member/manager relationships, and increased individual and organizational effectiveness.

McConkey (1973) also makes a strong claim for the potential benefits of MBO in non-profit organizations. He briefly reviews several case studies of successful applications of MBO: in the Holt, Michigan, school system; in the Management Institute of the University of Wisconsin-Extension, Madison; in the U. S. Forest Products Laboratory, Madison, Wisconsin; in the Canadian Post Office, Ontario Region; in a non-profit hospital in Ottawa, Canada; in the U. S. Navy Supply Systems Command; and in the Mayor's office of the city of Sapporo, Japan (McConkey, 1973).

Beck and Hillmar (1972, page 265) present examples of other case studies of MBO, both cases with positive results and other cases with negative outcomes. The MBO case history literature is predominantly pro-MBO, with many strong claims

made for the effectiveness of MBO in motivating and satisfying employees, and enhancing organization performance.

Systematic Empirical Research

The preceding section has presented a number of findings concerning MBO reported in the case study literature. In general the conclusions were drawn from personal observations or anecdotal kinds of evidence. While case studies are valuable as a descriptive device, it is often difficult to be completely confident that the claims made are based on sound data, or are due to MBO and not to other concurrent causes.

This section describes in detail the rather small amount of research on MBO in which data have been systematically obtained. Studies reported in this section have several common features:

1. Conclusions are based on data-based research.
2. Attempts are made to establish statistical significance levels of findings.
3. The researcher has attempted to obtain a meaningful sample from which to obtain data.

Ivancevich's (1972) literature review includes the works of four groups of researchers. Meyer, Kay, and French (1965) studied an on-going program called Work Planning and Review. They experimentally tested some effects of moving from a traditional performance appraisal system to a system under which goals for achieving improved job performance

were developed and submitted to superiors for review and approval. The experimental group and a control group were analyzed over a one-year period. Managers in the experimental group were found to have more favorable attitudes toward the content and challenge of their jobs.

Raia (1965 and 1966) did a longitudinal study of the effects of MBO in the Purex Corporation Ltd. Primary emphasis of the study was on discovering associations of certain variables rather than in proving causality. Instruments used for data gathering were historical analysis of production reports, computer control reports, and written performance reviews; questionnaires on awareness, attitudes, and opinions of participants; and interviews. Completed questionnaires were received from 112 of 137 management participants. No control group data were reported.

The 1965 study reported increased productivity and overall improvements in attitudes of participating managers, as well as an overall increase in the level of motivation of participants. A second study conducted fourteen months later showed that productivity had leveled off, the program had deteriorated as an effective motivational mechanism, and attitudes toward the program had changed. Problems which were identified included lack of perceived participation by lower-level managers, the paperwork burden, too much emphasis of quantitative measures, and use of the program as a device to generate extra work from managers.

Carroll and Tosi (1970) focused on the consequences of carrying out an MBO program process in different ways in a study conducted in a medium-sized national firm manufacturing consumer and industrial products. Questionnaires were administered to 150 managers involved in an on-going MBO program; 134 questionnaires were returned and 129 were usable. Correlational analysis was used in evaluating responses to the 50 items, most of which were combined into scales.

Higher levels of satisfaction with the superior and subordinate perception of the importance of the program correlated with goal clarity. Clarity in turn was higher when superiors spent more time on the program and held more feedback and review sessions.

Difficulty of goals was related to decreased effort in managers with low self-assurance and among less mature and experienced managers. But, difficult goals were associated with increased effort among managers with high self-assurance, mature managers, and managers who associated their performance with the reward system. Thus, individual differences between managers were an important factor. The degree of subordinate influence in the goal-setting process had no relation to higher levels of perceived goal success, effect, or to attitudes toward the program or the superior.

Tosi and Carroll (1969) reported research which was apparently conducted in the same organization as the study reported above (Carroll and Tosi, 1970). The 1969 study

considered the relationship between influence and such organizational factors as organizational level and functional area. The basis of the study was a series of interviews conducted with 50 managers. (The questionnaire developed in the 1970 study was apparently also based on the 50 interviews.) Managers with the highest perceived influence over performance goals were located in the functional areas of marketing and finance, those with the lowest were in manufacturing and engineering. Higher level managers had greater influence than lower level managers. Tosi and Carroll conclude that both organizational factors and the manner in which the goal-setting process occurs are practical limitations that affect the degree of perceived subordinate influence over his goals.

Chesser (1971) attempted to integrate a wide range of variables in viewing MBO as a behavioral process. His study used questionnaire data obtained from 73 managers involved in an ongoing MBO program. Data was collected at two points in time, eighteen months apart. The cross-lagged panel correlation method was employed in making inferences of causality. Chesser's work was an outgrowth of the research on MBO being conducted by Tosi and Carroll. He used in his a priori model feedback characteristics, goal characteristics, and the superior-subordinate relationship as independent variables. Dependent variables were level of goal achievement, effort expended, level of goals set, and satisfaction

with the MBO program. Chesser also investigated, using the Ghiselli Self-Description Inventory, the effects of some personality characteristics as moderating variables.

After using multiple-group cluster analysis, Chesser's final seven scales were:

1. Super-Subordinate Relationship
2. Goal Clarity
3. Orientation toward MBO
4. Association between Performance and Reward
5. Influence over Goals
6. Job Satisfaction
7. Perceived Success

The seven variables were used to formulate two empirically based models of the change relationships in MBO. Different models were required for (1) managers who rated themselves low on such dimensions as self-assurance, initiative, and perceived occupational level and (2) managers high on the same dimensions. In the case of (1), all relationships among the variables were positive, while in the case of (2), the relationships between changes in perceived success and changes in two variables, job satisfaction and the superior-subordinate relationship were negative.

Chesser also found that increases in the subordinate's affective orientation toward his superior result from increases in the superior's supportiveness, use of goal oriented methods, and the subordinate's influence over means. He concludes that MBO must be viewed as a system of highly interactive components to be understood and applied and, accordingly, a universal response to MBO cannot be expected.

MBO may be effective for some members of the organization while being counter productive for others.

Ivancevich, Donnelly, and Lyon (1970) found marked improvement in perceived need satisfaction (using Lawler-Porter scales) among managers trained in MBO by top-level executives as compared with managers trained by the company personnel manager. Ivancevich (1972) obtained measurements of perceived need satisfactions among the same managers twenty months after the MBO interventions and found no significant differences between pre-intervention measures and the measures made twenty months later. He concluded that the effects of MBO training and implementation were short-lived, and that some form of reinforcement of what was learned and practiced in the training sessions was needed to sustain the impact of the intervention.

Recent empirical research includes doctoral dissertations by Kirchhoff (1972) at the University of Utah and Kondrasuk (1972) at the University of Minnesota. Kirchhoff attempted (1) to design and test an instrument for measuring the extent of use of MBO in an organization, (2) to determine if the extent of use as measured by that instrument was related to the degree of participative management, and (3) to determine if the extent of use and/or the degree of participative management were related with the amount of experience the manager had with MBO. Kirchhoff had mixed success, but he did report strong evidence to indicate that participative

management is positively related to the extent of use of MBO. His study included 172 managers in three companies.

Kondrasuk compared the effectiveness of an on-the-job method of training for MBO, using interviews and projects or assignments, with a method which included attending a management seminar. He evaluated both learning and reaction to the training by using a pretest/posttest experimental design with a control group. Included in the study were 55 people from all levels of management from rehabilitation facilities. Kondrasuk concluded: (a) the seminar method of teaching MBO is effective while coaching probably is not; (b) MBO test results (measuring instrument used) are probably not directly related to rating the same knowledge; (c) the quantity of coaching on MBO is not directly related to gains in knowledge; and (d) ratings of the seminar and rating gains in knowledge are not directly related.

A Note on the Time Required to Achieve the Full Effects of MBO

The earlier section of this chapter relating to the purpose of the research emphasizes that the present study is concerned with the short term attitudinal effects of the introduction of MBO. This study provides a basis for longitudinal research, but it does not report any longitudinal findings. Accordingly, the reader should recognize the importance of taking the findings of this study only for

what they are--short term effects.

The MBO literature contains numerous cautions that time is required to achieve the full effects of MBO. Varney warns that "Another common cause of failure on the part of managers lies in the notion that MBO is something that can be installed in a short span of time. On the average, a manager can spend a year and a half to two years learning to manage by objectives, and an equal amount of time may be required for subordinates to learn how to use MBO. When we escalate to the departmental level, and on up to divisional or higher levels in the organization, the amount of time required is extended and, in some cases, it can be as long as eight to ten years before the system is operable within the total organization." (Varney, 1972, page 28).

Schuster states that while MBO has considerable potential for increasing employee commitment, it is not an easy approach to implement. "It usually takes several years for management by objectives to have a real impact on an organization, and even those companies that have applied it most successfully have had to overcome serious problems." (Schuster, 1972, page 21).

Howell (1970) suggests that four to five years are required to achieve a fully effective management by objectives system. Schleh (1959) cautions not to expect big improvements in the first year after introducing MBO, and McConkey (1973) states that non-profit organizations should allow three to

four years for a successful MBO installation. Beck and Hillmar warn against attempting to take short cuts in implementing MBO. "This all takes time. Short cuts can be dangerous. An attempt to fully implement a MBO/R program immediately usually causes organizational 'indigestion'." (Beck and Hillmar, 1972, page 832).

Kleber (1972) describes government agencies as "one of the six hardest areas to manage by objectives" and warns against expecting too much too soon. Raia (1966, page 50) states that "Introducing a substantially different management system in any large organization is a complex undertaking which requires a considerable period of time for adjustment."

Likert discusses the problems faced by organizations operating under tight controls in changing to a participative system. He suggests that such organizations are likely to "...run into indifference and apathy, or even aggressive responses. One might expect that any movement away from authoritarian control would be greatly appreciated by employees. Experience has shown, however, in recent experiments (White and Lippitt, 1960), that when management relinquishes tight controls and moves toward participative management, the initial response of members of the organization at every hierarchial level may be apathy or open hostility and aggressive responses against their superiors." (Likert, 1961, page 243). Likert maintains that considerable time may be needed before employees' attitudes rise back to and above

pre-change levels.

In contrast to Likert's suggestion that attitudes follow a U-shaped curve, initially declining but increasing over time to higher levels, two studies reported in the MBO literature found opposite results. Ivancevich (1972) reports improved job satisfaction following MBO training but a subsequent decline to pre-MBO levels 20 months later. Raia (1966) reported longitudinal data, which indicated that the MBO program eventually deteriorated as an effective motivational mechanism.

Ivancevich does, however, suggest "Another possibility is that there is an effect which is analogous to the spontaneous recovery effect discovered in classical conditioning experiments (Pavlov, 1927). After an improvement in the dependent variable (satisfaction), there will be a significant decrease and then a final and lasting improvement," (Ivancevich, 1972, page 127).

In summary, several different results of MBO introduction might be observed including: (a) short term improvement followed by long term declines to initial levels, (b) short term improvements and even greater long term improvements, (c) initial declines followed by long term improvements, (d) immediate improvements, itermediate term declines, and long term improvements, or (e) no changes in the short term but either improvements or declines in the long term. Knowledge of both short term and long term outcomes is needed

for full understanding of the MBO process.

This research attempts to add to the knowledge of short term effects and establish a basis for longitudinal findings. The foregoing discussion should serve to caution strongly against drawing any conclusions from this study as to the long term effects of implementing MBO. At the same time, understanding of the short term effects of MBO which may result from this study should be valuable to researchers and to managers concerned with MBO.

Summary of Literature Review

An intensive literature search uncovered reports of fewer than ten scientifically structured, empirical studies of MBO as an integrated process. Ivancevich (1970) had reviewed the literature and reported published empirical findings of only four groups of researchers. Miner and Dachler (1973) mention only three empirical studies, and one of these (Dunbar, 1971) is actually a melding of empirical findings from other literature rather than an integrated study of an MBO process as such. The only attempt at replication of other research was the dissertation of Chesser, and he attempted to establish causality inferences in the correlational model of Carroll and Tosi.

The reported research involves a minimal number of companies and participants. Only management level participants are included in any of the studies, although the prescriptive

and descriptive MBO literature does not exclude non-management impact!

Case studies of MBO implementation include both successes and failures, but primarily successes. Case studies, however, provide only weak evidence that the MBO process caused the changes. The extensive prescriptive literature on MBO is predominantly pro-MBO. Many claims are made for the motivational and satisfaction producing effects of MBO, not to mention claims for better performance, increased productivity, etc.

Ivancevich (1972, page 135) concluded that "Perhaps comparing a number of experimental and control departments or plants longitudinally is essential before a more definitive statement about the effects of MBO is forthcoming. Future research should examine both satisfaction and performance criteria and their relationships. Until more tightly controlled research is conducted, organizations will have to assume that MBO is or is not an effective procedure for improving job satisfaction and/or performance."

Miner and Dachler (1973, page 387) observe that "The MBO approach not only seeks to take advantage of the motivational consequences of goal setting, but also uses such approaches as participation as a means of achieving commitment to goals, giving knowledge of results with regard to achievement or non-achievement of goals, and other motivating principles advanced by human relations theorists. Thus it

clearly provides an excellent vehicle for integrating different theoretical approaches and for collecting the kind of empirical data which could increase our understanding of the effects of the phenomenal field on purposive behavior."

Finally, Sloan and Schrieber (1970) in "What We Need to Know About Management by Objectives" make a strong plea for empirical research which will objectively appraise the effects of MBO. As early as 1968 Wikstrom reported that hundreds of profit-making enterprises had used MBO. Tremendous resources had been invested in MBO, and yet there had been almost no empirical research as to the effects of MBO. Probably still valid today is Sloan and Schrieber's comment that "In short, the use of MBO is increasing at a much higher rate than our knowledge about it."

Conclusion

This chapter has attempted to show the need for empirical research on MBO. Certain important variables involved in the MBO process have been identified. In the following chapter a model is described for use in attempting to assess some of the short-term effects of MBO and the process causing such effects. The fact that the short-term effects of MBO may be quite different from the long term effects should be borne in mind by the reader.

CHAPTER II

RESEARCH MODEL DEVELOPMENT AND HYPOTHESES

This chapter describes the research model developed from the MBO literature reviewed in Chapter I and some findings from other literatures which are relevant to MBO. The following section presents the major hypotheses to be tested while the later sections provide further rationale for the major hypotheses and also a basis for the minor hypotheses concerning moderating variables.

Major Model

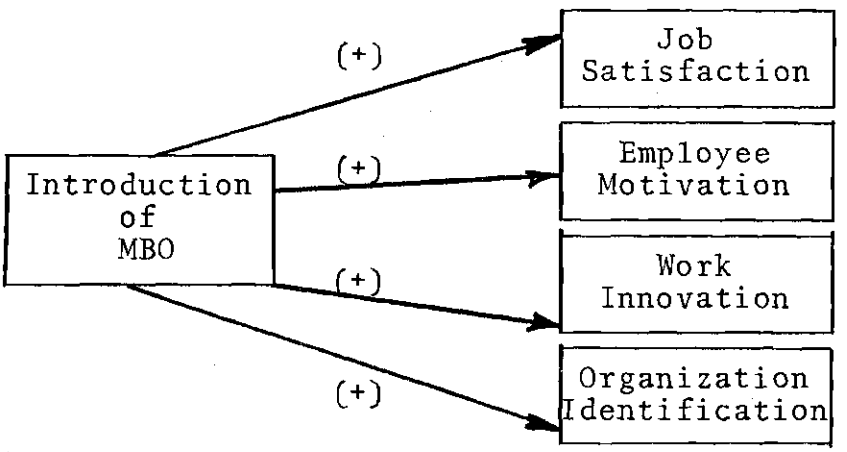
From the review of MBO empirical research it is clear that Tosi, Carroll, and Chesser as a group are responsible for a large percentage of the empirical research which has been reported. Unfortunately, their work involves measurements in an on-going MBO program, rather than during the introduction of MBO. As the present research is concerned with the changes which result from introducing MBO, the Carroll, Tosi, Chesser research, while useful for ongoing programs, affords only peripheral help. As will be indicated later, measures used in this study do in fact draw upon some of the Chesser and Carroll and Tosi work, and choice of moderator variables is influenced heavily by their research.

The Ivancevich *et al.* research is more closely

relevant to this study. This research will attempt to replicate their finding that in the short term, perceived need satisfaction is increased as a result of MBO introduction. The Raia research also found short term attitudinal improvements, as well as increased level of motivation and enhanced work innovation of participants. Meyer, Kay and French found increased job satisfaction resulting from use of an MBO-based performance appraisal system. Time constraints on this research suggest that while the MBO program to be introduced contemplates ultimate use of MBO-based appraisals, the appraisal aspects will not have been incorporated beyond some negligible extent during the period of the study. This study is more concerned with the introduction of managing, rather than appraising by objectives.

The much more extensive prescriptive and descriptive literature on MBO generally complements the limited empirical finds. Raia's work, like many case study reports, claims that MBO leads to improved organizational performance. While the present study focuses on the attitudinal consequences of the introduction of MBO, study of changes in organizational performance is contemplated for expected continuing research which uses the present study as a base. Time constraints on the present study preclude meaningful objective measurement of performance changes, though individuals' perceptions of their performance will be measured. Performance effects are not included in the model to be tested in this study.

The major model developed for this study may be represented as follows:



The four major hypotheses to be tested are:

Hypothesis 1: Introduction of MBO leads to increased job satisfaction.

Hypothesis 2: Introduction of MBO leads to increased employee motivation.

Hypothesis 3: Introduction of MBO leads to increased work innovation.

Hypothesis 4: Introduction of MBO leads to increased organization identification.

In addition, the impact of a number of moderating variables drawn from both MBO literature and related literatures (goal setting, motivation, job satisfaction, internal-external control beliefs, and organizational climate) will be investigated. No attempt will be made at an exhaustive review of the many literatures to which MBO is related. Rather, major support for the hypotheses presented will be drawn from the MBO literature itself, with additional support being drawn

from related literatures when clear linkage can be established.

Job Satisfaction and Motivation

Miner and Dachler (1973, page 381), observe that "Despite a few determined adherents to the belief that attitudes in some way directly cause behavior, it seems clear from the research reviews of Fishbein and Ajzen (1972), Lawler (1970), and Locke (1970) that this hypothesis is unsupported and is an oversimplification of the determinants of behavior. A much sounded approach, advocated by Cummings and Schwab (1972), is to develop separate theories of job attitudes and work motivation."

Miner and Dachler's view is supported by Wernimont, Toren, and Kapell (1970) who present empirical data obtained from 775 scientists and technicians who ranked personal accomplishment, praise for good work, getting along with co-workers, company location and receiving credit for ideas as having a greater impact on personal satisfaction than on motivation or job effort. Factors ranked as more important for motivation included knowing what is expected of one, having a capable supervisor, having challenging work and responsibility, and being kept informed and participating in decisions. Thus it is incorrect to use the terms "motivator" and "satisfier" interchangeably as is done in the two-factor theory of Herzberg (1959). Miner and Dachler (1973) review the literature on two-factor theory and conclude, as do Ronan

(1970), Smith and Cranny (1968) and others, that the theory is inadequate. Various alterations or extensions of the two-factor theory have been suggested. Other factors which should be considered include individual differences (Hackman, 1969; Evans and McKee, 1970), and whether the organizational environment is need-satisfying or need-depriving (Soliman, 1970).

Wolf (1970) also contends that the Herzberg two-factor theory errs in equating satisfaction with motivation. He views both the Maslow (1954) and Herzberg theories as essentially theories of job satisfaction. If motivation is added, Valence-Instrumentality-Expectancy theory is introduced.

Much research has been done relating to Valence-Instrumentality-Expectancy (VIE) theories of job satisfaction. These theories hold that motivation is a function of the interactions between effort-performance expectations, performance-outcome instrumentalities, and valences of outcomes. Moderate support has been demonstrated for the VIE models, although in some respects the evidence has been weak and contradictory.

The VIE theories have been modified or extended by various researchers. Dachler and Mobley (1971) studied two organizations with different organizational characteristics and found support for VIE theory predictions in the organization which allowed accurate perceptions about the

consequences of alternative performance levels, but not in the one which had conditions that hindered accurate perceptions of consequences. They found also that organizational tenure moderated the relationships among the cognitive variables, goal setting, and performance.

A number of researchers have attempted to integrate personality variables into the basic VIE model. For example, Lawler (1971) incorporated internal/external control beliefs and self-esteem.

Ronan (1970) summarizing an extensive review of job satisfaction literature concludes that seven dimensions of job satisfaction most frequently appear: (1) the content of the work, actual tasks performed, and control of work; (2) supervision of the direct sort; (3) the organization and its management; (4) opportunities for advancement; (5) pay and other financial benefits; (6) co-workers; and (7) working conditions.

Ronan cites Heron (1952, 1954, 1955) as first expanding the possibility that job satisfaction is contingent upon performance rather than vice versa, and provides references to other studies supporting the hypothesis. Ronan also reviews literature supporting the view that job satisfaction is related to job tenure (a complex area needing more detailed study), and literature relating satisfaction to organizational level.

Vroom (1964) found that the effects of participation

in decision making depend on certain personality characteristics of the individual participant. Authoritarianism and need for independence interact with participation in determining attitudes toward the job and motivation for effective performance. Vroom's findings suggest the need to include both individual differences and perceived participation as moderating variables in the MBO process.

The above review of some of the literature on job satisfaction and motivation supports treating the two variables separately. Furthermore, it suggests the need to consider a number of moderating variables which were identified from the MBO literature, and suggests the inclusion of others. Based on the above review, minor hypotheses concerning the moderating effects of a number of variables are propsoed below. A prediction as to the direction of effect on job satisfaction and motivation is probably justified by the literature. The effects on innovation and organizational identification have not been explored, and tests of moderating effects on these two dependent variables will be essentially exploratory in nature. Nevertheless, minor hypotheses will be stated relating to the moderating effects of various variables on <u>all</u> four dependent variables; job satisfaction, motivation, work innovation, and organizational identification.

The foregoing discussion suggests the following minor hypotheses:

Hypothesis 5: The effects of MBO on the dependent

variables will be enhanced by the strength of the perceived tie between performance and rewards.

Hypothesis 6: Organizational tenure will enhance the effects of MBO on the dependent variables.

Hypothesis 7: Participation in objectives setting will enhance the effects of MBO on the dependent variables.

Hypothesis 8: The greater the influence an individual has over his job, the greater the effects of MBO on the dependent variables.

Hypothesis 9: The effects of MBO on the dependent variables will be greater for individuals who perceive themselves as supervisory than for those who perceive themselves as non-supervisory.

Hypothesis 10: Effects of MBO on dependent variables will be greater for individuals rated high on job performance than for individuals rated low on job performance.

Goal Setting

Miner and Dachler observe that "It is surprising that researchers attempting to study the cognitive processes underlying work motivation have not made more use of the fairly extensive literature related to intentional behavior and to motivational properties of goals." (Miner and Dachler, 1973, page 385). Locke (1969a, 1969b, 1969c, 1970a, 1970b) argues, based on considerable research, that satisfaction is a function of value judgments which he defines as the perceived relationship between what is perceived or anticipated to exist in a job situation and an individual's value

standards and goals. In Locke's (1970a, 1970b) motivational model, goals and intentions are the most immediate determinators of performance. Clear, difficult goals lead to higher performance rates than do easy goals (1969b, 1970b) and external incentives affect performance through their impact on the individual's goals and intentions. Bryan and Locke (1967) found that specific goals can be used to motivate individuals who brought a low degree of motivation to the task situation. Stedry and Kay (1966) maintain that good performance accompanies perceived challenging goals only within limits. If goals are perceived as impossible, poor performance results; or, perceived difficulty of goals leads to performance extremes. Stedry and Kay's study is one of a very few which have extended laboratory studies such as those of Locke to a field setting.

The goal setting literature together with the MBO literature suggests additional minor hypotheses:

Hypothesis 11: Goal clarity will enhance the effects of MBO on the dependent variables.

Hypothesis 12: Perceived difficulty of goals will enhance the effects of MBO on the dependent variables.

Hypothesis 13: Emphasis on objectives by higher levels of supervision will enhance the effects of MBO on the dependent variables.

Feedback

A number of studies have shown that meaningful feedback

is positively related to job performance (Weitz, Antoinetti, and Wallace, 1954; Miller, 1965). Cook (1968) presents empirical evidence that frequency of feedback helps explain attitudes, performance, and aspiration levels. Shenson (1969) in a comment critical of Cook's methodology proposes alternative explanations of Cook's findings. Shenson's alternative explanations still suggest that feedback which is perceived as being supportive to the recipient creates a favorable attitude (interest and satisfaction) in the recipient relative to his task (organization, superior, etc.), and feedback perceived as critical creates an unfavorable attitude. Thus:

Hypothesis 14: Effects of MBO on the dependent variables will be enhanced by increased frequency of feedback on objectives performance.

Internal-External Control

Rotter (1966) describes development of a test of individual differences in a generalized belief in internal-external control and provides reliability, discriminant validity and normative data for the test. His work is based on the premise that the effects of reward or reinforcement on preceding behavior depend in part on whether the person perceives the reward as contingent on his own behavior or independent of it. Individuals who believe that their behavior determines outcomes score low on the scale and are identified as having "internal" control beliefs, while those

scoring high are termed "externals." Rotter reviews a series of studies "which provides strong support for the hypothesis that the individual who has a strong belief that he can control his own destiny is likely to (a) be more alert to those aspects of the environment which provide useful information for his future behavior; (b) take steps to improve his environmental condition; (c) place greater value on skill or achievement reinforcements and be generally more concerned with his ability, particularly his failures; and (d) be resistive to subtle attempts to influence him." (Rotter, 1966).

The effects of MBO are expected to be moderated by individual differences. Internal/external control beliefs will be used as one of the individual difference variables.

Hypothesis 15: Individuals with high internal control beliefs will show greater changes in the dependent variables as a result of the introduction of MBO than will individuals with high external control beliefs.

Job Interdependence

A number of references are made in the MBO literature to the effects of job interdependence on the success of MBO. An individual whose job is highly dependent on others should react differently to the MBO process than an individual who is reasonably independent of others in the performance of his job. Patchen (1965, 1970) found in studies at TVA a strong association between control over means and indicators

of job motivation.

Hypothesis 16: Perceived job interdependence will lessen the effects of MBO on the dependent variables.

Organizational Climate

Rensis Likert (1961, 1967) and Siepert and Likert (1973) describe four basic types of management systems, ranging from what they term the most primitive and least effective (System 1) to the most developed and most effective (System 4). Likert's concepts parallel those of McGregor's (1960) Theory X and Theory Y. Likert claims that the closer an organization is to System 4, the greater the motivation, satisfaction, innovation, and (implied) organizational identification of its members. The System 4 organization is one in which influence is secured by constructive problem solving in cohesive groups. The total "influence pie" increases through the willingness of people to give more influence to others in problem solving because they, in turn, have more influence on others. Interest and willingness to commit effort to innovative practices results. Based on the above and the job satisfaction and motivation literature the following minor hypothesis is suggested:

Hypothesis 17: The more System 4 individuals perceive their organization to be, the greater will be the effects of MBO on the dependent variables.

Acceptance of Job Change

Smith and Cranny (1968) review findings on the relationship between acceptance of job change and job satisfaction following changes. Patchen (1965) attempted to assess the extent to which employees react favorably or unfavorably to changes in the job situation. Introduction of MBO may result in considerable changes in the job situation. Individuals high on acceptance of job change are expected to respond more favorably to introduction of MBO than those low on acceptance of job change.

Hypothesis 18: The effects of MBO on the dependent variables will be more positive for individuals high on acceptance of job change than on individuals low on acceptance of job change.

Education

College education has been found to affect expectations for satisfaction. For example, Klein and Maher (1966) found college first-line managers significantly less satisfied with pay than non-college managers. Singh and Baumgartel (1966) reported a positive relationship between education and the importance attached to advancement by airplane mechanics.

Hypothesis 19: The effects of MBO on the dependent variables will be greater for college graduates than for non-college graduates.

Chapter III discusses how the hypotheses are to be tested, including selection of the field site and the research approach.

Table 2. Summary of Hypotheses

Major Hypotheses:

1. Introduction of MBO leads to increased job satisfaction.
2. Introduction of MBO leads to increased employee motivation.
3. Introduction of MBO leads to increased work innovation.
4. Introduction of MBO leads to increased organization identification.

Minor Hypotheses:

5. The effects of MBO on the depedent variables will be enhanced by the strength of the perceived tie between performance and rewards.
6. Organizational tenure will enhance the effects of MBO on the dependent variables.
7. Participation in objectives setting will enhance the effects of MBO on the dependent variables.
8. The greater the influence an individual has over his job, the greater the effects of MBO on the dependent variables.
9. The effects of MBO on the dependent variables will be greater for individuals who perceive themselves as supervisory than for those who perceive themselves as non-supervisory.
10. Effects of MBO on dependent variables will be greater for individuals rated high on job performance than for individuals rated low on job performance.
11. Goal clarity will enhance the effects of MBO on the dependent variables.
12. Perceived difficulty of goals will enhance the effects of MBO on the dependent variables.
13. Emphasis on objectives by higher levels of supervision will enhance the effects of MBO on the dependent variables.

Table 2 (concluded)

14. Effects of MBO on the dependent variables will be enhanced by increased frequency of feedback on objectives performance.

15. Individuals with high internal control beliefs will show greater changes in the dependent variables as a result of the introduction of MBO than will individuals with high external control beliefs.

16. Perceived job interdependence will lessen the effects of MBO on the dependent variables.

17. The more System 4 individuals perceive their organization to be, the greater will be the effects of MBO on the dependent variables.

18. The effects of MBO on the dependent variables will be more positive for individuals high on acceptance of job change than on individuals low on acceptance of job change.

19. The effects of MBO on the dependent variables will be greater for college graduates, than for non-college graduates.

CHAPTER III

FIELD SITE AND RESEARCH APPROACH

The Quasi-Experimental Method

The hypotheses are tested using an administrative quasi-experiment of a type suggested by Campbell and Stanley (1966) and Campbell (1969). The approach differs from a true experiment mainly in that treatment groups and control groups are not randomly chosen. Instead, a design is used which is made as close to a true experimental design as the situation allows. Thus the interpretability of the outcome of the quasi-experiment is more open to question than would be the results of a true experiment, but more interpretable than non-experimentally obtained results.

The review of MBO literature presented in Chapter I reveals that of the published empirical research on the effects of MBO, only the work of Meyer, Kay, and French (1965) reported the use of a control group. Use of a control group of managers who did not undertake an MBO approach to appraisal enabled the researchers to make stronger claims of causality linking changing the appraisal system and the higher levels of satisfaction among the managers involved. Both the case studies and the other data based research on MBO suffer from not having control groups which would

indicate if factors other than those being tested might have affected the dependent variables.

Although a quasi-experiment lacks the randomization necessary in a true experiment, the availability from the control group of data on changes in study variables adds a considerable degree of confidence to statistical results. As stressed by Campbell and Stanley (1966) the use of true experiments is seldom possible in organizational settings. Attempting to make the research approach a true experiment is better than letting the assumed obstacles rule out having any control group at all.

The quasi-experimental design chosen for this research is what Campbell and Stanley call the "Nonequivalent control group design." This design involves an experimental group and a control group both given a pretest and a posttest, but in which the control group and the experimental group do not have pre-experimental sampling equivalence. Rather, the groups constitute a collection of organizational divisions as similar as availability permits but yet not so similar that the experimenter can dispense with the pretest. The assignment of the treatment (X) to one group or the other is assumed to be random and under the experimenter's control. The design may be represented as

$$\frac{O}{O} - \frac{X}{} - \frac{O}{O}$$

where X represents the exposure of a group to an experimental variable or event (MBO introduction in the case of this research), the effects of which are to be measured; and O refers to the process of observation or measurement (questionnaire administration in this research). The Xs and Os in a given row are applied to the same specific persons, and temporal order is indicated by the left-to-right dimension. Xs and Os vertical to one another are simultaneous.

Assuming that approximate similarity of groups is obtained, this design can be regarded as controlling for such threats to validity as history, maturation, testing, and instrumentation, in that the difference for the experimental group between pretest and posttest (if greater than for the control group) cannot be explained by main effects of these variables since they would affect both experimental and control groups.

Campbell and Stanley claim that simple gain scores are applicable for testing the effects of the experimental variable. Analysis of covariance may be more desirable, but involves such assumptions as homogeneity of regression which may not be completely plausible.

The Research Site and the Selection of Experimental Groups

The research site used in testing hypotheses was a local government in the metropolitan area of a large

Southern city. The researcher had been in contact with the organization during the fall of 1972 and had learned that a number of departments of the government were contemplating going to a system of Management by Objectives. As of the fall of 1972 only sketchy preliminary planning had been done, and the researcher was able to participate both in the planning for MBO and in the selection of departments to be trained initially. He assisted in arranging MBO training seminars for the initial departments being trained. To a large extent Campbell and Stanley's assumption of random selection of groups to be treated was met, although there remained some element of self-selection by the involved departments.

The one-day MBO training seminar was conducted in four of the organizational divisions by the training staff of a private firm in the metropolitan area. MBO training was conducted in the fifth division by the training officer of the local government as a part of a larger supervisory training program.

The local government involved in the research consists of some 2,000 employees distributed through approximately 40 departments. Each of the departments looks to a single manager for administrative purposes. The manager in turn is appointed and given direction by an elected board of commissioners. Some departments also look for direction to elected or appointed boards, judges or other officials, while

others function strictly within a hierarchy headed by the local government manager.

The directors of the different departments are appointed or elected officials, typically but not necessarily with experience in civil service. All other members of the departments are civil service professionals. Some directors are appointed by the local government manager and approved by the board of commissioners, others are appointed by elected judges or other officials.

The departments represent four general governmental areas: judicial, health, social services, and administrative. Each of the four areas employees about 500 people. Two areas, health and social services, are not included in this research, primarily because state legislation was imminent at the time the research was begun which, had it been passed, would have drastically altered the operations of the areas. Accordingly, an attempt was made to select somewhat randomly representative divisions from each of the other two areas, judicial and administrative.

The criteria specified by Campbell and Stanley's nonequivalent control group design were used as the primary basis for selection of experimental groups. Prior to identification of divisions, the researcher conducted extensive interviews with 50 members of the local government, including 19 directors or deputy directors of ten different departments, two administrative assistants of the local government manager,

a judge, and a number of supervisory and non-supervisory employees at all organizational levels. He reviewed organization performance reports, budget records, and functional responsibilities of the various departments and he attended a number of meetings of the Board of Commissioners and the Budget Committee.

In addition to Campbell and Stanley's criteria, two other selection criteria were employed: (1) departments whose top management were likely to change during the research period (for example, through retirement) were not selected, and (2) departments expecting to undergo radical changes in size or function (such as changes due to legislation) were not selected. In one sense these criteria lead to a biased selection, but in another they remove the effects of major independent variables other than MBO. These criteria were only partially satisfied in the divisions chosen. The director of one of the control groups resigned shortly after the study began, and one of the judicial departments received a major federal grant during the period of the research. Such effects cannot be fully controlled in field research, but hopefully their impact on study variables can be recognized and explained during analysis of results.

The risk of self-selection discussed by Campbell and Stanley did not apply as much in the selection of divisions in which to introduce MBO as it did in the choice of timing of MBO introduction. The local government is more or less

committed to implement MBO as a prelude to program planning and budgeting (PPB) over the two year period whose beginning coincided with this research. Accordingly, the self-selection problem is not viewed as a significant one.

Based on Campbell and Stanley's criteria, the criteria cited above, and the time and economic constraints of the research, ten organizational divisions were selected for inclusion in the study.

The divisions selected for the research include three treatment divisions and three control divisions from the judicial area, and two treatment divisions and two control divisions from the administrative area. In terms of numbers of employees, the six judicial divisions include 201 people, while the four administrative divisions include 99.

The control divisions appear quite similar in function and organizational context to the treatment divisions. As an example of the self-selection that occurred during the course of the research, one of the divisions had been selected by the experimenter to be a control group in order to have a treatment group and a control group within the same department, as was the case with two of the other departments. Before the training got underway, however, the director of the department containing the two divisions made a decision to train both divisions at the same time. Thus, self-selection did enter into the design. Overall, the assignment of treatment and control groups appears to have

resulted in approximately equivalent groups.

Time Sequence of the Research Interviews, Selection of Experimental Groups, and Questionnaire Development

The research was begun during the fall of 1972. Interviews aimed at a general familiarization with the research organization were completed in early January, 1973. Experimental groups were identified by February 1, and the questionnaire measures were finalized in early February. (A copy of Questionnaire 1 is included in Appendix A.)

Pre-Treatment and Retest Questionnaire Administration

Pretreatment questionnaires were administered to all members of participating divisions (302 people) during late February and early March, 1973. Questionnaires were administered in small group briefing sessions and completed questionnaires were mailed directly to the researcher.

Retest questionnaires which included blocks of items from the pretest questionnaire plus Rotter's Internal External Orientation Scale were administered to all respondents to the initial questionnaire (total of 256) on an individual basis approximately three weeks after return of the initial questionnaire. The retest questionnaires were in seven basic versions. Each version included the Rotter scale and from 21 to 28 of the original questionnaire items. A total of 214 retest questionnaires were completed and returned.

The retest questionnaires were mailed directly to participants with a cover letter explaining their purpose (see sample in Appendix B) and a return envelope addressed to the researcher.

MBO Training

One of the treatment divisions attended the MBO training seminar in late February, 1973. Three other treatment divisions were trained in June, 1973. Training of the fifth treatment division was completed in late May, 1973. On-going implementation of MBO started in each division following the training session, and was still continuing at the time of the post-treatment questionnaire.

Post-Treatment Questionnaires

Post-treatment questionnaires were mailed directly to all participants during August and September, 1973. The questionnaire was identical to the pretreatment questionnaire with the exception of the cover sheet ("Part II" has been added) and the final page. Samples of the two pages of the posttreatment questionnaire which are different from the pretreatment questionnaire, and the cover letter, are included in Appendix C.

Data Collection

The first questionnaire was completed and returned by 163 people in the judicial area and by 93 people in the administrative area. Of the total number of respondents, 82

classified themselves as supervisory, 145 reported they had at least a college education, and 171 had been employed by the local government for at least two years. A total of 214 people completed and returned retest items and Rotter's Internal-External Orientation Scale which were administered three weeks after the pretreatment questionnaires.

The treatment group contains 150 people, of whom 133 completed the pretreatment questionnaire. Of 152 people in the control group, 123 completed the first questionnaire.

Questionnaire 2 was returned by 106 of the 133 people in the treatment group who had returned Questionnaire 1. Sixty of the 152 people in the control group who returned Questionnaire 1 also returned Questionnaire 2. The returns by division were as follows:

Treatment				Control			
Division	NTOT	Q1	Q2	Division	NTOT	Q1	Q2
1	13	13	12	1	36	30	12
2	37	33	25	2	15	15	11
3	19	17	24	3	17	14	7
4	31	31	26	4	19	18	12
5	50	39	29	5	65	46	18
	150	133	106		152	123	60

Feedback to Experimental Groups

Aggregated, coded feedback was provided to all participating divisions on all questionnaire item responses, both pretreatment and post-treatment, during September and October of 1973.

Treatment

The treatments attempted to introduce the independent variable, management by objectives. The two treatments, both intended to accomplish the same result of introducing MBO, each consisted of a training session in MBO, followed by on-the-job implementation of the process.

One version of the treatment utilized outside trainers to provide MBO training. Four treatment divisions were trained by the outside team. The training was attended in two separate sessions by all employees of one of the divisions. All employees of a second division, and all supervisory and professional employees of the third and fourth divisions were trained. The first training consisted of a pre-seminar programmed learning package followed by a one-day seminar. Included in the seminar were: a team building exercise involving feedback of a limited portion of the results from the first questionnaire, specifically Likert's short form profile of organization; MBO theory; and group exercises concerned with problem identification, objectives criteria development, and formulation of a limited number of objectives. All divisions trained then engaged in further objectives development and follow-up on an on-going basis during the weeks following the training.

The second version of the treatment differed from the first version in two main respects. MBO training was received only by supervisory employees of the fifth division.

The training was provided by the training officer of the local government as a part of a supervisory development program. The program consisted of a series of programmed instruction packages involving cassette tapes and workbooks, each of which was followed by a two-to-three hour seminar attended by all supervisors. Seven weekly seminars were conducted during a two-month period. The seminars included problem identification; team building, including feedback using the Likert "Profile"; and development of a work plan and job performance objectives. The supervisors attending, including the division head, involved their subordinates to varying degrees in on-the-job implementation of the MBO plan.

In an attempt to compensate for the limited survey feedback provided to the treatment divisions, each of the control divisions was also given the results of the Likert "Profile" obtained from the pretreatment questionnaire.

The treatment received by all five treatment divisions is assumed to be the same, namely training in MBO followed by on-the-job implementation of the process.

Treatment Variations

The treatment intended by the researcher included not only MBO training of all respondents in the treatment group, but also a fairly uniform implementation of MBO as a system of managing in each of the treatment divisions. Had this been accomplished, even though the training packages differed

somewhat, a strong claim could have been made that the treatment was in fact the implementation of MBO in each of the treatment divisions.

Follow-up activities in fact differed considerably among the five treatment divisions. One division did continue, to a great extent, the objectives setting begun during the seminar. Departmental goals were published and disseminated to all employees, group and individual objectives were established and agreed upon, and continuing follow-up and feedback were occurring at the time the second questionnaire was administered.

A second treatment division head simply utilized the material and participative activities begun during the seminar to justify continuing his own highly authoritarian style of management. Questionnaire 2 comments from members of this division reflected that MBO had not been implemented with quotes such as "...job performance and self-improvement objectives are not employed under present management."

Another fairly typical comment received on the second questionnaire was similar to the quote "Our MBO training was too theoretical and too overstressed by comparison with what can actually be accomplished, considering our lack of backing at upper management levels."

MBO implementation in the other three treatment divisions fell between the two extremes cited above. One division head encouraged and was involved in the setting of

job objectives. A second encouraged his subordinates to continue the training and implementation within their groups, but did not actively participate. The third made no noticeable efforts to apply any of the training.

All divisions, however, are to an extent forced to acknowledge goals and programs in the annual budget hearings. The levels of program goals are generally such that it may be quite difficult to identify individual objectives with the program goals. Nevertheless, exposure to objectives and MBO has been quite extensive throughout the treatment group, but slight or non-existent within the control group.

Even within a division whose head has enthusiastically embraced MBO, effects on individuals vary considerably depending upon the specific situation, the immediate supervisor, and a number of other factors. On the other hand, some supervisors within divisions whose heads gave minimal support to MBO have incorporated many of the ideas presented in the training sessions.

The following comments received from different members of the same treatment divisions support the observed heterogeneity of the MBO treatment:

From a judicial division:

1. "I have been exposed to MBO. Objectives are good only if agreed to by all and reviewed regularly for completion. Management by Objectives is usually a paper game played by management."

2. "MBO is o.k.--very helpful!"

3. "MBO is a great approach but takes time and familiarity to realize much change. If properly administered it can make your job a challenge. On the other hand, the improper objectives and administration can make you feel as if you are nothing but a score keeper."

Comments from a second judicial division included:

1. "Management by Objectives is not necessarily the best approach in this department due to the fact that objectives may be complex and varied over a population of 9,000 clients and each objective dependent on multiple variables--therefore, can only be broadly stated when using a departmental basis. Instead, success depends upon sensitive, self-starting, professional staff, capable of great flexibility."

2. "Management by Objectives is the right approach and should be beneficial to all, more particularly to those who have not been previously exposed in college as well as through experience."

3. "Management by Objectives is great, but it is extremely hard to relate it to a job of this nature. The establishment of objectives is often out of the hands of this department's directors. Most of the time TOP MANAGEMENT (County Commissioners, Judges, etc.) fail to be realistic in viewing this job."

4. "I believe that Management by Objectives could be very helpful to this department."

5. "MBO is great. I see its application every day in this and other fields."

6. "Management by Objectives does not apply to our department because our department heads have no control over salaries, promotions, amount of new personnel, workload, legal procedures, or anything else pertinent to the satisfactory completion of our jobs. The County Commissioners and manager control everything and tend to continually tie our hands by not hiring enough personnel, not giving promotions or salary increases, not

cutting caseloads, not supporting department heads and Judges in new ideas for improving our work."

Comments from the administrative divisions included:

1. "I think MBO is the proper approach; however, there has been no noticeable adoption of these principles since the seminar nor any indication that there will be."

2. "I think MBO could be most beneficial if put into action and doesn't go down the drain at the completion of this questionnaire. I believe with set objectives--job performance will show for itself. This will separate the paper shufflers from the workers."

3. "MBO is no doubt very useful when it comes to basic, clearcut operations. I seriously doubt it is a panacea for all operations and levels. Particularly when it comes to R & D, traditional MBO is difficult to use since one doesn't always know what the end result will look like in a project.

   This county seems like many other governments, to have continuously tried methods to increase efficiency and effectiveness. MBO, task force, MIS, program analysis are but a few examples. In spite of all these attempts, the inertia of the organization seems to have stalled all efforts. I personally think that these methods will never be wide spread and utilized until there is a radical change in financial climate (= less money available) and/or a change in priorities among the four top level officials (= top level support for changes). It is a well established fact nowadays, that changes rarely occur because more or less sophisticated administrative methods are developed and available. These methods have been utilized because top level management has pleased to do so and backed them actively and/or because the organization has been in such a financial squeeze that it has been forced to economize."

4. "Think it's a good idea--management and employees need to think out and know where they are going and how they are going to get there."

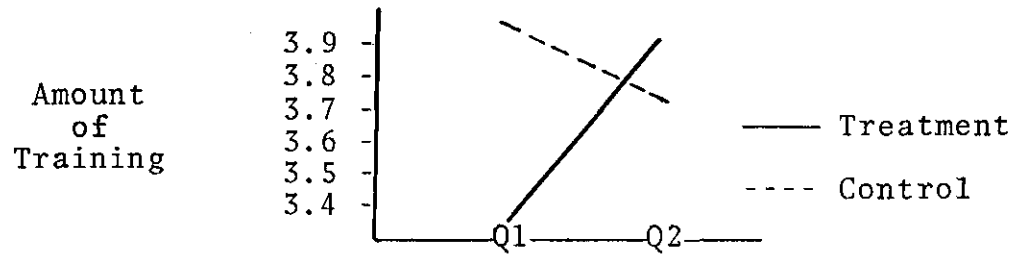
5. "Good management technique. Aids in giving management and all levels of employees common direction. Also helps employees see how their function fits into the organization."

6. "MBO is essential to effective management in any large organization. It is simply a common-sense approach to management that insures that you know where you are going and what progress you are making in getting there. The techniques should be further refined for not for profit organization but the concepts are fine."

In addition to comments of the type listed above, evidence to support the claim that the MBO treatment was felt include the following data obtained from question number 41 on the two questionnaires: "How much training have you received in how to set objectives?" A groups-by-trials analysis of variance (see Chapter V for discussion) was done on treatment group--control group, Questionnaire 1-Questionnaire 2 responses. Table 3 presents the analysis.

Table 3. Analysis of Variance, Groups-by-Trials, Treatment Group versus Control Group, Questionnaire 1-Questionnaire 2, Item No. 41

	No.	Q1	Q2	Groups	Probability
Treatment	106	3.37	3.91	3.64	Groups $\leq$ .58
Control	60	3.98	3.75	3.87	Trials $\leq$ .063
Trials	166	3.59	3.85		GxT $\leq$ .0089



The reported amount of training increased significantly more in the treatment group than in the control group between Questionnaire 1 and Questionnaire 2.

On the other hand, the responses to item 50, "In general, how much time does your boss devote to setting and reviewing your objectives?" did not show a significant increase in the treatment group relative to the control group. The data for item 50 are given in Table 4.

Table 4. Analysis of Variance, Groups-by-Trials, Item 50

	No.	Q1	Q2	Groups	Probability
Treatment	104	3.04	3.15	3.09	Groups $\leq$ .085
Control	60	2.70	2.72	2.71	Trials $\leq$ .59
Trials	164	2.91	2.99		GxT $\leq$ .74

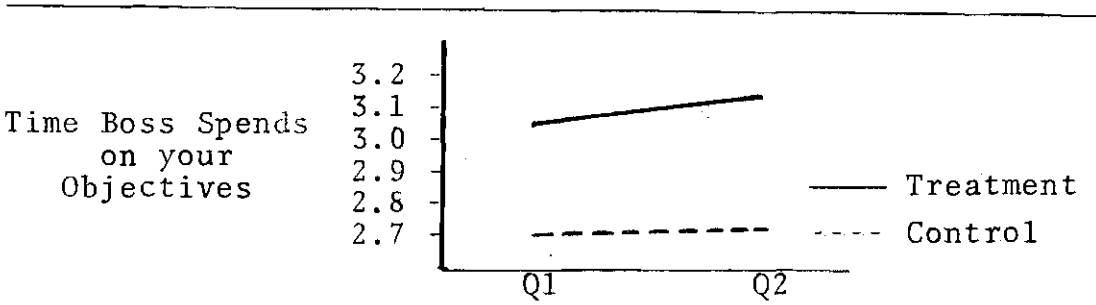


Table 4 does indicate that the level of the variable in the treatment group is significantly higher ($p \leq .085$) than the level in the control group, but the change between Questionnaire 1 and Questionnaire 2 in the treatment group is not significantly greater than the change in the control group ($p \leq .74$).

In summary, observations by the researcher, comments by respondents on the second questionnaire, and responses on the two questionnaire items cited above, all support the view that MBO training was received by people in the treatment group, but the treatment was perceived differently by different people, and the different divisions did not uniformly implement the concepts. This eventuality had been anticipated in the research design, but not to the extent to which it occurred. It was expected that implementation would be more uniform than it was. A number of moderating variables were proposed in Chapter II. The inclusion of these moderators in the research instrument allows the effects of the hetereogeneous treatment to be tested. Chapter V outlines the method of analysis employed and presents the data resulting from the research.

Chapter IV presents the instrument and measurements employed in the research, including the development and testing of the scales which operationalize the variables of interest.

CHAPTER IV

INSTRUMENT AND MEASUREMENTS

Scale Development

Philosophy

The strategy employed in the research in developing an instrument for data collection was to use existing measures to the greatest extent possible, developing new scales only when existing scales could not be located or did not seem appropriate. Accordingly, scales developed by Patchen (1965) in work with the TVA were chosen to operationally define job motivation, work innovation, organization identification, acceptance of job change, and job interdependence. Job satisfaction is measured with a modified scale based on Ford's (1970) "Reactions to Your Job" scale.

Likert's (1967) short form "Profile of Organizational Characteristics" was modified slightly and used to assign "system" values to the experimental groups. Several scales used in measuring higher level emphasis on objectives, objectives clarity, objectives difficulty, and objectives setting influence were patterned after measures described by Carroll and Tosi (September, 1970) and Chesser (1971). Unfortunately, the Carroll and Tosi and the Chesser scales were not obtained until the research was half complete, and

although the items are similar, the responses used are seven-point scales instead of five-response scales used in the earlier empirical research, and the specific wording and choice of items are different.

Items relating performance to rewards are also similar to items suggested by Chesser (1971). Internal-external control belief scores for individuals are obtained using Rotter's (1966) Internal-External Control Scale.

Background information was recorded using fairly standard biographical information items. Performance ratings of participants were made by group managers using a slight modification of the civil service rating forms used within the local government on a limited basis.

Modifications to scales to make them more applicable to the local government were made based on interviews with 50 people in all organizational levels in 10 different departments of the local government. Also based on the interviews was development of a 50-item Likert type instrument used to measure employee attitudes on specific policy, procedural, and organizational items relevant to the local government. The primary purpose of the 50-item instrument was to provide survey feedback following the post-treatment questionnaire administration to the participating groups.

New scales developed for this research as well as modified standard scales were checked for validity and reliability using several different criteria. Factor

analysis was utilized as a working tool by the researcher to confirm that loadings of items on various factors was consistent with the grouping of items into scales.

It should be pointed out that the labeling of variables assessed by multiple-item scales is essentially a judgement of the researcher, and the reader is well advised to consider the items which make up the various scales. The comments of Patchen (1965) relating to composition of multi-item scales are also pertinent. Patchen used the "empirical technique", i.e. choosing questionnaire items to be used in a measure primarily on the basis of validity evidence for each item--especially according to whether responses to the question are related to evidence of actual behavior. He points out that the approach differs from the method whereby items are chosen essentially according to their relation to other items intended to measure the same characteristics. In the latter method evidence for validity of the measure is sought only after the items have been chosen.

Thus, the empirical method may give multi-item scales which may not be "pure"--in the sense that the scale may contain items which measure somewhat different things. On the other hand, the major advantage of the empirical method is the greater assurance that the measure developed will be related to actual behavior. Obviously cluster analysis or factor analysis will not identify "impure" scales. The Patchen scales were retained for use in this research even

though several of the scales did in fact contain items which did not correlate highly with each other. The correlations which were obtained were quite similar to the results originally obtained by Patchen at TVA. Table 5 contains a list of the 19 scales developed for testing the research model.

Evaluation of Scale Reliabilities and Validities

Several techniques were used in evaluating reliabilities and validity of all scales used in the study. In addition to support provided by developers of the original scales (Patchen, for example), internal analysis, external analysis, analysis of face validity, and test-retest analysis were employed.

Nunnally (1967) argues that the most meaningful measure of internal reliability is given by:

$$r_{xx} = \frac{Nr}{1+(N-1)r}$$

where r_{xx} = the estimated internal reliability

r = the average off-diagonal correlation between items

N = the number of items in the scale.

When the items in the scale have the same variance, Nunnally's formula yields the same numerical estimates as coefficient alpha and Kuder-Richardson (Chesser, 1971, page 36). Relative to Patchen's comments on "pure" scales, it should be noted that some low off-diagonal correlations will

Table 5. Scales Developed

	Scales	Questionnaire Item Numbers
1.	Job Motivation	78,79,80,81
2.	Organization Identification	82,83,84,85,86
3.	Work Innovation	70,71,72,73,74,75
4.	Job Satisfaction	96,98 through 112
5.	Likert Organizational Profile	5 through 22
6.	Acceptance of Job Change	64,65,66,68,69
7.	Higher Level Emphasis on Objectives	33,34,35,36,49 through 54
8.	Feedback Frequency	44,45
9.	Rewards-Performance Tie	89,90
10.	Objectives Setting Influence	38,40
11.	Job Influence	92,93,94,95
12.	Objectives Clarity	28,30,31,32
13.	Objectives Difficulty	25,27
14.	Job Interdependence	59,60,61,62
15.	Internal-External Scale	Rotter (1966)
16.	Job Performance Rating	--
17.	Perceived Organizational Level	1
18.	Tenure in Organization	3
19.	Education	4

not significantly lower the estimate if the number of items is large and some of the correlations are relatively high. As to how high the internal reliability should be, Nunnally states that it depends on how the measure is being used, and, "in early stages of research on prediction tests or hypothesized measures of a construct, one saves time and energy by working with instruments that have only modest reliability, for which purpose reliabilities of .60 or .50 will suffice." (Nunnally, 1967, page 226).

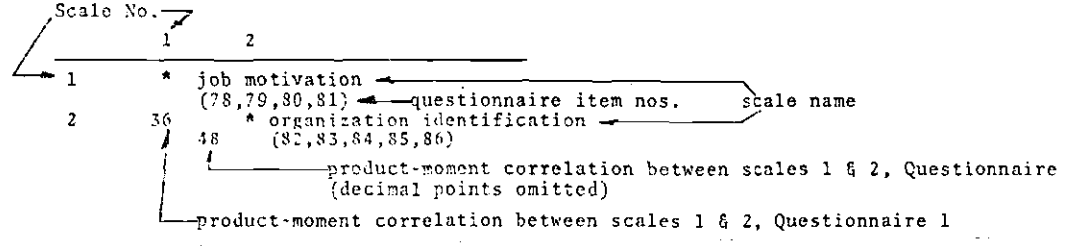
External analysis involves determining the similarity of items in a group by analyzing the patterns of correlations with items external to the group. Items which rightfully are parts of the same scale should show similar patterns of correlations with other items. Deciding whether patterns are consistent enough to justify inclusion of items in a scale is up to the researcher. Examination of the tables of intercorrelations among items on both questionnaires shows consistent patterns for items within scales. Further demonstration of external consistency can be seen in Table 6, which gives intercorrelations among scales, and indicates that the scales do discriminate.

Analysis of face validity is hazardous because the important factor is the subject's (rather than the researcher's) perception of content. The subject's perception may not be what the researcher had in mind in developing the item. The following sections of this chapter present the arrangement of

Table 6. Correlation Coefficients Between Scales

Scale	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1	* job motivation (78,79,80,81)																		
2	36	* organization identification (82,83,84,85,86)																	
	48																		
3	25	14	* work innovation (70,71,72,73,74,75)																
	25	18																	
4	45	47	27	* job reactions (96,98-112)															
	43	49	30																
5	22	31	17	55	* Likert organizational profile (5-22)														
	16	32	17	58															
6	23	37	3	42	45	* acceptance of job change (64,65,66,68,69)													
	20	31	12	48	57														
7	19	22	-4	48	41	18	* higher level emphasis on objectives (33,34,35,36,49,50,51,52,53,54)												
	16	37	-2	51	39	30													
8	4	12	16	29	31	7	26	* feedback frequency (44,45)											
	13	28	29	47	38	28	46												
9	6	28	7	44	24	15	31	22	* tie of rewards to performance (89,90)										
	10	36	7	41	33	28	41	35											
10	21	15	26	41	37	25	24	31	24	* objectives setting influence (38,40)									
	20	21	33	51	42	38	23	26	26										
11	28	20	28	46	36	26	20	18	8	37	* job influence (92,93,94,95)								
	38	28	36	54	44	33	26	26	20	46									
12	29	21	9	33	27	26	29	-1	14	35	19	* objectives clarity (28,30,31,32)							
	23	26	3	41	29	24	41	23	22	40	28								
13	13	-1	17	9	-5	-11	4	6	10	18	2	2	* objectives difficulty (25,27)						
	10	9	22	19	11	3	15	18	1	26	8	37							
14	17	11	10	11	5	2	15	-4	10	10	9	6	9	* job interdependence (59,60,61,62)					
	33	19	5	19	-2	-2	18	3	5	10	7	26	13						
15	-13	-12	-9	-9	1	-17	-5	-6	-9	-3	-4	-1	4	-19	* internal-external score				
	-31	-13	-23	-21	-14	-12	-9	-26	-16	-11	-22	4	-3	-24					
16	22	13	10	27	12	18	17	14	8	3	9	10	-0	7	11	* job performance rating			
	20	6	8	28	20	12	9	12	17	7	22	8	3	4	-11				
17	-18	-5	-21	-20	-13	1	3	-7	6	-8	-36	-1	-7	-20	21	-9	* organization level		
	-18	-2	-12	-18	-9	-0	-0	-0	4	-15	-27	-4	2	-35	9	-16			
18	22	9	-11	11	-0	16	9	-21	-10	-3	19	15	-12	25	-13	7	-30	* organization tenure	
	27	7	-5	13	-10	-4	2	-16	-18	5	14	14	1	44	-15	0	-35	(3)	
19	6	-9	32	1	4	-16	-10	17	-15	11	15	-6	26	-12	-3	-3	-17	-23	* education
	1	-8	31	-7	4	-5	-16	16	-16	7	11	-8	19	-17	-2	-2	-0	-20	(4)

KEY:



items in scales, the intercorrelations among the items on both pretreatment and post-treatment administrations and test-retest reliabilities of all items.

Cross validation of scales is made by comparing patterns of intercorrelations among scale items on the pre-treatment data with intercorrelations among scale items on the post-treatment data.

Test-retest reliabilities are Pearson Product-Moment Correlation Coefficients for each item measured on the pretreatment questionnaire with the same item measured on a retest approximately three weeks later. Each of the initial respondents (256 of 300 who received questionnaires) was given one of the seven different versions of the retest. Each retest included approximately one-seventh of the original questionnaire items and Rotter's Internal-External Orientation Scale. The number of responses on the retest was 214. Thus retest reliability was assessed from about 30 responses per item. Test-retest reliabiliites on all but a few items compared favorably in size with those obtained by Patchen (1965) at TVA. Test-retest reliabilities are reported for all items in the following sections.

In addition to the analysis described in the foregoing, all of the Patchen scales have the advantage of validation from independent measures such as supervisor's judgements, performance and attendance records, reported expectancy of leaving, number of suggestions submitted, relation to

grievances submitted, comparison with known groups, etc.

The following sections discuss each scale used in the research.

The Scales

Job Motivation

This variable is measured using a scale developed by Patchen (1965) in research at TVA. Usually motivation is inferred from other evidence--particularly productivity data--rather than directly measured. The difficulty in using inferential measures of motivation is that in most instances such measures do not exist for individuals, and even if they do exist, it is difficult to separate the ability component of performance.

Patchen developed a four item scale for assessing motivation on the job. The motivation score is the average of the four five-point item scores. The measures were validated using supervisory ratings of motivation, comparison with absence, relation to productive efficiency, and comparison with known groups. The four items used are as follows:

78. On most days on your job, how often does time seem to drag for you?

79. Some people are completely involved in their job--they are absorbed in it night and day. For other people, their job is simply one of several interests. How involved do you feel in your job?

80. How often do you do some extra work for your job which is not really required of you?

81. Would you say you work harder, less hard, or

about the same as other people doing your type of work?

Intercorrelations and reliabilities obtained in this research and those obtained by Patchen are shown in Table 7.

Table 7. Job Motivation: Intercorrelations and Reliabilities

(Local Government)					Test-Retest Local Gov't		Test-Retest Patchen		(Patchen) N = 223				
					r	(N)	r	(N)					
Item	78	79	80	81					Item	78	79	80	81
78	* how often time drags				.76	(29)	.80	(47)	78	*			
79	50	* job involvement			.83	(29)	.74	(48)	79	38	*		
	44												
80	33	33	* extra work		.74	(29)	--		80	05	22	*	
	24	41											
81	25	26	32	* work how hard	.71	(29)	--		81	17	30	24	*
	28	20	30										
index	76	71	76	58	.85	(29)	.80	(46)	index (78,79)				
	71	71	76	58									

Number of responses for test-retest = minimum of 29
Number of responses for pre-treatment questionnaire = minimum of 255
Number of responses for post-treatment questionnaire = minimum of 207

Estimated Internal Reliability:
Q1 = .67
Q2 = .64

Work Innovation

Patchen (1965) was interested in work innovation because of the benefit that can come to an organization from a search by employees at all levels for better ways to do

things. A continuing interest in innovation on the part of individuals may be an indicator of general interest and involvement in their job.

Validity of Patchen's six item scale was by relation to supervisors' rankings, relation to suggestions submitted, and relations to suggestions reported by respondents. Work innovation is scored as the average of the following six items:

70. In your kind of work, if a person tries to change his usual way of doing things, how does it generally turn out?

71. Some people prefer doing a job in pretty much the same way because this way they can count on always doing a good job. Others like to go out of their way in order to think up new ways of doing things. How is it with you on your job?

72. How often do you try out, on your own, a better or faster way of doing something on the job?

73. How often do you get chances to try out your own ideas on your job, either before or after checking with your supervisor?

74. In my kind of job, it is usually better to let your supervisor worry about new or better ways of doing things.

75. How many times in the past year have you suggested to your supervisor a different or better way of doing something on the job?

Intercorrelations and reliabilities obtained in the present research and that obtained by Patchen are presented in Table 8.

Organization Identification

A modified Patchen (1965) measure is used to

Table 8. Work Innovation: Intercorrelations and Reliabilities

Item	(Local Government) 70	71	72	73	74	75	Test-Retest Reliabilities (N)	r	(N)	r	Item	(Patchen) N = 634 70	71	72	73	74	75
70	* how do new ideas turn out						(29)	.35	(49)	.72	70	*					
71	41	* how many new ideas do you try in your job					(29)	.61	(49)	.72	71	20	*				
	45																
72	8	27	* how often do you try new ideas in your job				(29)	.62	(47)	.64	72	08	16	*			
	17	32															
73	18	13	52	* how many chances to try new ideas			(29)	.56	(48)	.67	73	07	05	41	*		
	18	25	54														
74	34	35	19	24	* better to let supervisor try out new ideas		(29)	.49	(48)	.54	74	10	15	16	24	*	
	25	35	28	28													
75	21	30	25	25	35	* how many suggestions to spvr during past year	(29)	.80	(48)	.85	75	14	12	36	34	24	*
	23	31	31	34	44												
Index	58	61	60	63	65	68	(29)	.78	(46)	.87							
	57	64	67	68	65	71											

Number of responses for test-retest = minimum of 29
Number of responses for pre-treatment questionnaire = minimum of 252
Number of responses for post-treatment questionnaire = minimum of 206
Estimated Internal Reliability:
Q1 = .69
Q2 = .75

operationally define this variable. Rarely is measurement of employee identification with the organization attempted. Patchen defines organizational identification as meaning a sense of solidarity (i.e., of common interest and purpose) with other members of the organization, especially with top leaders. A willingness to label oneself as an organization member and a willingness to defend and support the organization usually accompanies such a sense of solidarity.

The organization identification scale is one which is

not "pure", but Patchen retained all of the items to predict identification-related behavior. Validation of the measure was provided by supervisors' rankings, relation to displaying an organizational sticker, relation to turn over, relation to expectation of remaining with the organization, relation to length of service, and relation to attendance.

The measure used in this research is the average of the scores on five of the seven items suggested by Patchen. Two of Patchen's seven items were constructed specifically for TVA, and were not appropriate for this research. The items included are:

82. If you could begin working over again, but in the same occupation as you are in now, how likely would you be to choose (name of local government) as a place to work?

83. How do you feel when you hear (or read about) someone criticizing the (name of local government) Government?

84. If you have or were to have a son, how would you feel if someone suggested that he work for the (name of local government) Government?

85. In general, how often do you tell someone in your immediate family (husband, wife, child, parent, brother, sister) about some project that the (name of local government) Government has done or is doing?

86. In general, how often do you tell someone <u>outside</u> your immediate family (friend, neighbor, store clerk, etc.) about some project that the (name of local government) Government has done or is doing?

Intercorrelations and reliabilities obtained in this research and those obtained by Patchen are included in

Table 9.

Table 9. Organization Identification: Intercorrelations and Reliabilities

	(Local Government)					Test-Retest Reliabilities				(Patchen) N = 223					
Item	82	83	84	85	86	(Local Gov't) (N)	r	(Patchen) (N)	r	Item	82	83	84	85	86
82	* choose same organization again					(29)	.87	(32)	68	82	*				
83	29	* reaction to organization criticism				(28)	.75	(29)	.71	83	33	*			
	30														
84	50	36	* want children to work for organization			(29)	.73	(48)	.49	84	43	26	*		
	50	20													
85	1	14	18	* tell immediate family about organization		(28)	.65	(31)	.27	85	08	06	--	*	
	11	21	10												
86	18	25	21	60	* tell others about organization	(28)	.77	(32)	.61	86	07	03	--	60	*
	17	13	19	67											
index	60	63	68	63	71	(28)	.80	(32)	.71	index					
	62	58	61	67	69										

Number of responses for test-retest = minimum of 28
Number of responses for pre-treatment questionnaire = minimum of 252
Number of responses for post-treatment questionnaire = minimum of 195

Estimated Internal Reliability:
Q1 = .65
Q2 = .63

Job Satisfaction

Ronan's (1970) review of the job satisfaction literature found that seven dimensions of job satisfaction appear

most frequently. Many scales have been developed for attempting to measure job satisfaction. Some of the most widely used of these scales are summarized by Ronan and include the "Job Description Index" developed by the Cornell group (Smith, et al., 1969). Areas of job satisfaction included in the JDI are type of work, pay, promotional opportunities, supervision received, and coworkers.

The JDI attempts to measure a number of areas which were not expected to be affected in the research organization over the short term (pay, coworkers, promotional opportunities) and was rejected. Instead a scale used widely within the A.T.&T. Co. by Robert N. Ford (1970) in job enrichment studies was selected for use. Ford's "Reactions to Your Job" Scale was similar to a scale developed by Herzberg in 1965. The Herzberg measure related to his two-factor theory satisfiers: achievement, recognition, responsibility, the work itself, and growth and advancement. These five "satisfiers" have been referred to elsewhere in the job satisfaction literature as "intrinsic factors," "content" (as opposed to "context"), etc.

The content factors were believed to measure attitudes toward the job which were most likely to be affected by the introduction of MBO. Ford's "Reactions to Your Job" measure was modified to make it more applicable to the local government.

For purposes of this research, then, job satisfaction

is operationalized by the following sixteen items, keyed numerically to the sample questionnaire in Appendix A:

96. Think about the specific duties of your job. How often have you felt unable to use your full capabilities in the performance of your job?

98. How many functions do you perform on your job which you consider relatively unimportant or unnecessary?

99. As you see it, how many opportunities do you feel you have in your job for making worthwhile contributions?

100. How often do you feel that your job is one that could be dropped?

101. How much say do you feel you have in deciding how your job is to be carried out?

102. How frequently have you felt in your job that you could accomplish more if you could have complete freedom of action to accomplish your objectives?

103. How frequently on your job have you received some type of recognition for your accomplishments?

104. How often does your job, as presently structured, give you opportunities for personal recognition?

105. How do you feel about your present assignment as a job where you can continually learn?

106. How do you feel about your general association with (name of local government) Government as an opportunity for learning a lot?

107. Outside of any regular measurements of your job (indices or performance standards), how often have you inwardly felt you have achieved something really worthwhile?

108. To what extent is it possible to know whether you are doing well or poorly on your job?

109. To what extent is it possible for you to introduce new (untried) ideas on your job?

110. How often have you found the kind of work you are now doing be be interesting?

111. Based on your past experience in your present job, how often have you thought that you would like to quit or change jobs?

112. To what extent do you consider your present assignment helpful for a person who wants to be advanced in (name of local government) Government?

Responses were of the type:

Almost Always	Very Often	Fairly Often	Not Very Often	Very Seldom	Almost Never

Responses were coded, left to right, from 1 to 6.

The average of the sixteen responses is taken to be the job satisfaction score. Intercorrelations among the sixteen items for the pretreatment and post-treatment measures are shown in Table 10, together with test-retest reliabilities obtained for each of the sixteen items and the total scale.

Organizational Profile

This variable is measured by Likert's short form "Profile of Organizational Characteristics" (Copyright (c), 1967 by McGraw-Hill, Inc., distributed by the Foundation for Research on Human Behavior, P. O. Box 1248, Ann Arbor, Michigan, 48106). The scale includes 18 items relating to leadership, motivation, communication, decisions, goals, and controls. Responses were coded one to four, corresponding to system 1 to 4 on the continuous scale. The average of the 18 items is used as the organizational profile score. The

Table 10. Job Satisfaction: Intercorrelations and Reliabilities

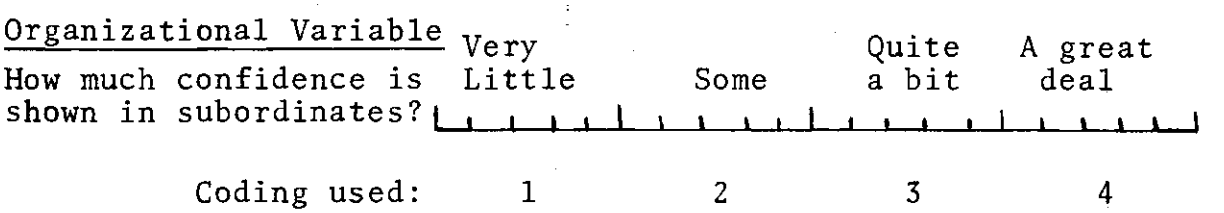
Test-Retest Reliability		Item	96	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112
(N)	r																	
(27)	.55	96	* use of full capabilities															
(27)	.51	98	40	* unnecessary job functions														
			27															
(27)	.64	99	26	36	* worthwhile contributions													
			32	25														
(27)	.40	100	21	36	33	* job could be dropped												
			28	37	21													
(27)	.68	101	22	17	47	19	* job decisions											
			21	28	47	10												
(26)	.53	102	40	33	32	22	36	* freedom of action										
			43	34	24	11	29											
(27)	.53	103	20	20	45	13	37	37	* recognition for accomplishments									
			26	30	30	8	45	37										
(27)	.34	104	24	15	37	10	37	28	70	* personal recognition								
			33	33	37	15	34	32	60									
(27)	.79	105	26	23	43	21	27	22	31	28	* job for learning							
			32	11	36	21	18	16	22	35								
(27)	.56	106	19	28	34	16	15	27	26	30	58	* organization for learning						
			30	20	32	21	22	25	24	34	56							
(27)	.72	107	18	31	45	27	28	22	39	35	49	42	* inward achievement					
			29	33	54	42	31	15	34	47	52	42						
(27)	.65	108	16	28	29	34	20	23	32	33	25	33	30	* knowledge of job performance				
			30	37	32	30	33	32	40	43	35	29	39					
(27)	.77	109	21	08	57	15	58	31	51	49	40	26	32	27	* new ideas			
			26	20	58	8	59	31	48	39	32	22	37	35				
(26)	.83	110	21	25	36	37	20	10	14	27	56	45	52	26	27	* interesting work		
			28	29	45	39	18	4	16	24	40	36	61	30	18			
(27)	.71	111	34	44	39	36	23	39	26	21	39	34	37	15	24	45	* quit	
			39	25	26	24	17	35	23	18	30	33	31	21	19	63		
(26)	.71	112	28	38	38	14	18	30	34	38	43	53	33	24	34	35	50	* advancement
			40	30	34	13	22	26	31	40	30	53	42	31	24	63	58	
(26)	.92	index	50	53	71	45	55	56	64	62	66	61	65	51	64	60	64	65
			61	53	67	43	56	53	61	66	60	61	72	63	62	57	55	62

Number of responses for test-retest=minimum of 26
Number of responses for pre-treatment=minimum of 255
Number of responses for post-treatment=minimum of 207

Nunnally's Estimated Internal Reliability
Q1 = .88
Q2 = .88

short form constituted items 5 through 22 on the questionnaire. Intercorrelations and reliabilities are shown in Table 11.

Example of scale item:



Acceptance of Job Changes

This variable is measured by five items developed and tested by Patchen (1965). Validity was provided by relation to supervisors' rankings and correlations with certain aspects of the work situation to which acceptance of changes might, theoretically, be expected to relate. At TVA acceptance of change scores were strongly related to employee participation in work decision-making.

Acceptance of job change is scored by the average of scores on the following five items:

64. Sometimes changes in the way a job is done are more trouble than they are worth because they create a lot of problems and confusion. How often do you feel that changes which have affected you and your job at (name of local government) have been like this?

65. From time to time changes in policies, procedures, and equipment are introduced by the management. How often do these changes lead to better ways of doing things?

66. How well do the various people in the plant or offices who are affected by these changes accept them?

Table 11. Organizational Characteristics: Intercorrelations and Reliabilities

Test-Retest Reliabilities		Item	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
(N)	r																			
(33)	.57	5	* confidence in subordinates																	
(33)	.53	6	63	* feel free to talk to superiors about job																
			68																	
(33)	.71	7	58	51	* subordinates ideas sought and used															
			56	60																
(31)	.44	8	46	47	48	* motivation through fear, threats, punishment, rewards, or involvement														
			41	39	49															
(32)	.56	9	36	33	38	25	* responsibility felt for achieving organizations goals where													
			33	36	39	33														
(33)	.61	10	38	42	29	42	33	* how much cooperative teamwork												
			49	44	50	43	44													
(32)	.55	11	31	21	27	23	26	31	* usual direction of info flow											
			32	38	49	40	37	42												
(33)	.82	12	43	42	24	47	26	52	30	* downward commd accepted how										
			41	41	44	48	38	46	48											
(33)	.03	13	23	30	25	31	19	27	33	36	* accuracy of upward commo									
			34	33	39	35	24	29	29	41										
(33)	.61	14	44	45	40	26	34	33	22	38	27	* superiors know subordinates problems								
			47	48	47	33	37	48	27	36	43									
(32)	.56	15	41	28	42	44	25	26	29	29	23	32	* level of decision making							
			39	40	41	39	44	44	48	38	26	40								
(32)	.79	16	52	51	57	45	27	38	33	43	33	50	54	* subordinate involvement in decisions						
			51	58	57	50	47	55	47	43	39	44	50							
(33)	.52	17	35	37	35	48	19	43	39	45	23	39	39	50	* decision making contribution to motivation					
			45	48	53	46	45	53	43	48	29	37	44	60						
(32)	.37	18	45	40	58	44	30	31	27	29	27	33	45	59	44	* organizational goals established how				
			51	45	63	45	34	46	42	48	43	43	48	61	46					
(31)	.44	19	18	16	11	26	18	28	18	33	13	18	19	20	26	16	* covert resistance			
			34	33	31	38	39	34	30	49	28	29	21	34	38	28	to goals			
(32	.70	20	30	30	32	37	31	36	25	30	22	31	39	44	36	41	20	*concentration of		
			33	33	43	34	47	38	43	44	28	38	51	47	40	43	30	review and control		
(32)	.30	21	18	22	12	26	16	37	13	32	15	22	21	27	44	20	42	17	* informal	
			30	29	22	27	21	35	36	41	35	27	17	27	35	13	40	23	resisting	
(30)	.31	22	40	33	29	52	24	43	29	50	28	28	30	33	53	35	42	32	46	* data use
(33)	.82		38	34	36	38	35	39	37	44	28	38	33	45	44	48	34	44	31	
		index	70	67	66	70	52	64	51	65	47	60	61	74	68	67	43	57	47	66
			69	70	74	66	63	71	65	70	55	64	65	77	72	71	56	64	48	64

Number of responses for Test-Retest = minimum of 30
Number of responses for Pre-treatment Questionnaire = minimum of 240
Number of responses for Post-treatment Questionnaire = minimum of 197

Nunnally's Estimated Internal Reliability:
Q1 = .90
Q2 = .92

68. In general, how do you now feel about changes during the past year that affected the way your job is done?

69. During the past year when changes were introduced that affected the way your job is done, how did you feel about them at first?

Intercorrelations and reliabilities for the present research and those obtained by Patchen are given in Table 12.

Table 12. Acceptance of Job Change: Intercorrelations and Reliabilities

	(Local Government)					Test-Retest Reliabilities				(Patchen) N = 834					
Item	64	65	66	68	69	(N)	r	(N)	r	Item	64	65	66	68	69
64	* worth of job changes					(29)	.79	(48)	.42	64	*				
65	47 51	* worth of policy, procedure, equipment changes				(30)	.28	(49)	.54	65	22	*			
66	26 46	32 60	* how well people accept change			(30)	.58	(49)	.35	66	19	30	*		
68	40 48	53 54	22 33	* feelings about changes in your job		(25)	.66	(36)	.55	68	27	34	21	*	
69	42 44	42 43	19 25	56 64	* first feeling about changes	(23)	.77	(35)	.58	69	22	30	10	70	*
index	78 82	74 79	56 70	75 77	73 70	(30)	.81	(34)	.76	index					

Number of responses for test-retest = minimum of 29
Number of responses for pre-treatment questionnaire = minimum of 252
Number of responses for post-treatment questionnaire = minimum of 179

Estimated Internal Reliability:
Q1 = .75
Q2 = .81

Emphasis on Objectives by Higher Levels of Supervision

This variable is a measure of the perceived emphasis placed on objectives and the MBO process by the individual's boss and higher levels of supervision. It is similar to measures used by Chesser (1971). The scale score is the average of the ten item scores. The scale is composed of the following ten items:

33. How much emphasis does your boss place on your attaining your job performance objectives?

34. How much emphasis does your boss place on your attaining your self-improvement objectives?

35. How much emphasis do people at higher levels than your boss place on your attaining your job performance objectives?

36. How much emphasis do people at higher levels than your boss place on your attaining your self-improvement objectives?

49. How concerned is your boss if you fail to achieve your job performance objectives to a significant degree?

50. In general, how much time does your boss devote to setting and reviewing your objectives?

51. How important do you think your boss considers your job performance objectives to be?

52. How important do you think your boss considers your self-improvement objectives to be?

53. How important do you think people at higher levels than your boss consider your job performance objectives to be?

54. How important do you think people at higher levels than your boss consider your self-improvement objectives to be?

Table 13 shows intercorrelations and reliabilities for the

Table 13. High Level Emphasis on Objectives: Intercorrelations and Reliabilities

Test-Retest Reliabilities (N)	r	Item	33	34	35	36	49	50	51	52	53	54
(36)	.63	33	* boss emphasis on job perf objs									
(36)	.47	34	53	* boss emphasis on self-improvement objs								
			58									
(35)	.40	35	42	31	* higher level emphasis on job perf objs							
			48	35								
(36)	.42	36	26	55	59	* higher level emphasis on self-imp objs						
			38	51	67							
(31)	.49	49	56	34	35	21	* boss concern--job perf objs					
			58	36	30	24						
(31)	.40	50	34	45	18	30	34	* time boss spends on objs				
			37	57	32	43	33					
(32)	.48	51	54	45	36	26	57	48	* importance bos puts--job perf objs			
			50	45	42	29	56	52				
(32)	.69	52	25	56	24	40	35	44	64	* importance boss puts--self-imp objs		
			42	65	29	46	39	55	61			
(32)	.63	53	32	20	56	41	39	19	55	36	* importance--higher levels-job	
			41	26	70	56	37	30	50	39		
(32)	.67	54	5	32	40	60	15	28	32	56	60	* importance--higher levels-self
			36	49	55	76	27	42	35	57	69	
	**	index	63	70	67	69	62	58	76	72	69	65
			70	73	73	76	60	67	71	74	74	78

Number of responses for test-retest = minimum of 31
Number of responses for pre-treatment questionnaire = minimum of 255
Number of responses for post-treatment questionnaire = minimum of 208

Nunnally's Estimated Internal Reliability:
Q1 = .87
Q2 = .89

**Test-retest reliabilities for total scale were not obtained.
Test-retest reliability for items 33-36 = .49
Test-retest reliability for items 49-54 = .70

variable.

Feedback Frequency

This variable measures the individuals' perception of frequency of feedback on both job performance objectives progress and self-improvement objectives performance. The score for the variable is the average of the scores obtained on two items:

44. How often are you given feedback on your progress on your job performance objectives?

45. How often are you given feedback on your progress on your self-improvement objectives?

Intercorrelations and reliabilities for these two items are shown in Table 14.

Table 14. Feedback Frequency: Intercorrelations and Reliabilities

Item	44	45	Test-Retest Reliabilities r	(N)
44	*	frequency of feedback on job perf objs	.53	(31)
45	60 68	* frequency of feedback on self-improv. objs	.46	(31)
index	91 93	87 90	.59	(31)

Number of test-retest respondents = minimum of 31
Number of pre-treatment questionnaire respondents = minimum of 255
Number of post-treatment questionnaire respondents = minimum of 208

Estimated Internal Reliability:
Q1 = .75
Q2 = .81

Tie of Reward Structure to Performance in Meeting Objectives

This variable assesses the perceived relationship between the individual's performance in satisfying job performance objectives and his future salary increases and future promotions. The score for the variable is the average of the scores obtained on the following two items:

89. In your opinion, how much will the extent to which you achieve your job performance objectives affect your future salary increases?

90. In your opinion, how much will the extent to which you achieve your job performance objectives affect your future promotions?

Intercorrelations and reliabilities obtained for the two items are in Table 15.

Table 15. Tie of Reward Structure to Performance in Meeting Objectives: Intercorrelations and Reliabilities

Item	89	90	Test-Retest Reliability r	(N)
89	*	job performance objs affect future salary increase	.46	(33)
90	79	* job perf. objs affect future promotions	.70	(33)
index	95 94	94 94	.64	(33)

Number of test-retest respondents = minimum of 33
Number of pre-treatment questionnaire respondents = minimum of 255
Number of post-treatment questionnaire respondents = minimum of 209
Estimated Internal Reliability:
Q1 = .88
Q2 = .86

Objectives Setting Influence

Two items are used to measure this variable:

38. How much influence did you have in the setting of your job performance objectives?

40. How much influence did you have in the setting of your self-improvement objectives?

The average score on the two items is used as a measure of objectives setting influence. Reliabilities and intercorrelations obtained are shown in Table 16.

Table 16. Objectives Setting Influence: Intercorrelations and Reliabilities

Item	38	40	Test-Retest Reliabilities r	(N)
38	*	influence in setting job performance objs	.61	(36)
40	41 43	* influence in setting self-improvement objs	.23	(36)
index	84 85	84 84	.44	(36)

Number of respondent test-retest = 36
Number of respondent pre-treatment questionnaire = 225
Number of respondent post-treatment questionnaire = 209
Estimated Internal Reliabilities:
Q1 = .58
Q2 = .60

Test-retest reliabilities are low on this item, as on other objectives-oriented items. Questionnaire 2 data will be used in determining effect of objectives setting influence as a moderator.

Job Influence

This variable measures broader job influence than just influence in objectives setting. It is scored as the average

of four items dealing with the what, when, how, and who of job-related decisions:

Thinking about the way things generally happen IN YOUR PRESENT JOB, how much influence do you feel you personally have in:

92. Deciding what is to be accomplished.

93. Deciding on a timetable or deadlines.

94. Deciding how the work will be done.

95. Deciding on who will do the work.

Table 17 presents intercorrelations and reliabilities obtained for this four-item scale. It may be observed that test-retest reliabilities, while still not as high as might be desired, are much higher than on the previous variable, objectives setting influence.

Table 17. Job Influence: Intercorrelations and Reliabilities

Item	92	93	94	95	Test-Retest Reliabilities r	(N)
92	* deciding what				.59	(26)
93	79	* deciding when			.58	(26)
	73					
94	67	71	* deciding how		.63	(26)
	75	72				
95	62	59	64	* deciding who	.64	(26)
	63	59	57			
index	88	89	87	83	.73	(26)
	89	88	87	82		

Number of test-retest respondents = minimum of 26
Number of pre-treatment questionnaire respondents = minimum of 256
Number of post-treatment questionnaire respondents = minimum of 208
Estimated Internal Reliability: Q1 = .89; Q2 = .89

Objectives Clarity

This variable incorporates how well individuals understand their objectives and how consistent are their objectives with higher level goals. The items are similar to some of the items used by Chesser (1971) in his Goals Clarity and Relevance measure. The scale consists of the following four items. The score for the scale is the average of the four item scores. Intercorrelations and reliabilities are presented in Table 18.

28. How well do you understand your job performance objectives?

30. How well do you understand your self-improvement objectives?

31. How consistent with the most serious and pressing problems facing your department are your job performance objectives?

32. How consistent with your own personal development needs are your self-improvement objectives?

Table 18. Objectives Clarity: Intercorrelations and Reliabilities

Test-Retest Reliabilities		Item	28	30	31	32
(N)	r					
(36)	.25	28	* understanding of job performance objs			
(36)	.41	30	37	* understanding of self-improvement objectives		
			64			
(36)	.31	31	39	37	* consistency of job perf objs with dept problems	
			47	36		
(36)	.15	32	32	47	45	* consist. of self improvmt objs w. needs
			47	57	51	
(36)	.41	index	72	74	76	74
			82	81	75	79

Number of responses for test-retest = minimum of 36
Number of responses for pre-treatment questionnaire = minimum of 255
Number of responses for post-treatment questionnaire = minimum of 207

Nunnally's Estimated Internal Reliability:
Q1 = .72
Q2 = .77

Written comments on the pretreatment questionnaires suggest that respondents did not really understand the "job performance" and "self-improvement" objectives terminology, not having been exposed to MBO. This language difficulty is believed to account for the low test-retest reliabilities obtained on this and other objectives oriented items. (Post-treatment data to be used for moderator.)

Objectives Difficulty

This variable is measured by two items concerned with the perceived difficulty of job performance and self-improvement objectives. The objectives difficulty score is the average of the scores obtained on the following two items:

25. What, in your opinion, is the level of difficulty of your job performance objectives?

27. What, in your opinion, is the level of difficulty of your self-improvement objectives?

Test-retest reliabilities and intercorrelations obtained for these items are given in Table 19.

Table 19. Objectives Difficulty: Intercorrelations and Reliability

Item	25	27		Test-Retest Reliabilities	
25	*	difficulty of job performance objs		.33	(35)
27	45	*	difficulty of self-improvement objs	.14	(36)
index	87 86	84 85		.25	(36)

Test-retest reliabilities are for 36 respondents, intercorrelations on the pretreatment questionnaire are for 251 respondents, and intercorrelations on the past-treatment questionnaire are for 207 respondents. Estimated internal reliability for Questionnaire 1 = .62 and for Questionnaire 2 = .63. Test-retest reliabilities are quite low on this item. The suspected reason for low reliabilities is "objectives language" difficulty also mentioned in connection with objectives clarity. Measures obtained by Questionnaire 2 should not be affected in the treatment group by the language difficulty which should have been overcome by the time Questionnaire 2 is administered. Questionnaire 2 measures of objectives difficulty will be used as a moderating variable.

Job Interdependence

This variable attempts to measure the extent to which an individual affects, or is affected by, others in the performance of his job. The items in the measure are patterened after two two-item scales developed by Patchen (1970). Job interdependence score is the product of scores on the following four items:

59. If the other people you have contact with on the job don't do their jobs right or on time, how often would this create problems for your own work?

60. How many people with whom you have contact on the job could create problems for your work if they didn't do their jobs right or on time?

61. If you didn't do a good job on something or didn't do it fast enough, how often would this create problems for someone you have contact with on the job?

62. If you didn't do your own job right, for how many other people with whom you have contact on the job would this create problems?

Intercorrelations among the four items and test-retest reliabilities are given in Table 20. Because this is a multiplicative measure, the correlations between item 59 and items 60 and 62, and between item 61 and items 60 and 62 would not appear to be meaningful, nor would an estimated internal reliability be meaningful.

Table 20. Job Interdependence: Intercorrelations and Reliabilities

Item	59	60	61	62	Test-Retest Reliability r	(N)
59	* others create problems				.48	(30)
60	22	* how many others create problems			.68	(30)
61	53 / 46	19 / 61	* you create problems for others		.61	(30)
62	31 / 43	54 / 60	34 / 55	* you create problems for how many others	.78	(30)
index	59 / 72	69 / 73	62 / 69	68 / 71	.72	(30)

Number of responses for test-retest = minimum of 30
Number of responses for pre-treatment questionnaire = minimum of 256
Number of responses for post-treatment questionnaire = minimum of 209

Internal-External Orientation

This variable uses Rotter's (1966) Internal-External Orientation Scale to measure the extent of an individual's belief in external control of reinforcement. Scores range from 0 to 23, with higher scores indicating stronger belief in external control.

Job Performance Rating

Performance ratings of participants were made by group managers using a slight modification of the civil service rating forms used within the research organization on a limited basis. Ratings and coding employed were:

outstanding = 5
above average = 4
average = 3
below average = 2
unsatisfactory = 1

Education; Length of Service in the Organization; and Perceived Organizational Level, Either Supervisory or Non-Supervisory

Standard items used in obtaining these variable scores may be seen in the sample questionnaire in Appendix A, items 1, 3, and 4. Coding of responses is one, two, etc. from top to bottom, left to right.

Summary of Scale Development Results

Criteria applied in determining the adequacy of scales

to be used in the research have been discussed at the beginning of this chapter. This section is designed to summarize the results of testing applicable multi-item scales against the selected criteria.

The criteria used in evaluating scales are as follow:

1. Internal analysis, using Nunnally's measure of internal reliability. Table 21 presents internal reliabilities obtained from both Questionnaire 1 and Questionnaire 2 data.

2. Test-retest reliabilities. Table 21 also contains the test-retest reliabilities obtained from Questionnaire 1 and the retest instruments administered approximately three weeks after Questionnaire 1.

3. External analysis, which involves analyzing the patterns of correlations of items within each scale with items external to the scale. Items which "belong" in the same scale should yield similar patterns of correlations with other items. Visual inspection of the Questionnaire 1 and Questionnaire 2 item correlation matrices, with particular attention to sign reversals on other than very small correlation coefficients, is used by the researcher in evaluating external consistency.

4. Cross validation. Questionnaire 2 data is used in cross validating the results of the item analysis. Correlations between items contained in the various scales are analyzed to determine if they are consistent between Questionnaire 1 and Questionnaire 2. The tables of correlations presented in the preceding sections for each multi-item scale indicate the comparison of Questionnaire 1 and Questionnaire 2 results.

5. Face validity, which is based on the researcher's judgement as to whether the content of the various items within each scale is reasonable. To get help in making this judgement, the researcher asked the opinion of others with experience in scale development. Still, the evaluation is subjective, and the risk remains that the respondent's interpretation of items may

Table 21. Internal and Test-Retest Reliabilities of Multi-Item Scales

	Scale	Internal Reliability (Q1)	Internal Reliability (Q2)	Test-Retest Reliability
1.	Job Motivation	.67	.64	.85
2.	Organization Identification	.65	.63	.80
3.	Work Innovation	.69	.73	.78
4.	Job Satisfaction	.88	.88	.92
5.	Likert Organization Profile	.90	.92	.82
6.	Job Interdependence	*	*	.72
7.	Acceptance of Job Change	.75	.81	.81
8.	Higher Level Emphasis on Objectives	.87	.89	.49** .70***
9.	Feedback Frequency	.75	.81	.59
10.	Performance-Rewards Tie	.88	.86	.64
11.	Objectives Setting Influence	.58	.60	.44
12.	Job Influence	.89	.89	.73
13.	Objectives Clarity	.72	.77	.41
14.	Objectives Difficulty	.62	.63	.25

Note: Questionnaire 1 (Q1) Internal reliabilities are calculated from 256 responses.

Questionnaire 2(Q2) Internal reliabilities are calculated from 208 responses.

Test-Retest reliabilities for individual items are included in earlier sections of this chapter, together with number of respondents, which ranged from 26 to 36.

* Multiplicative index. Internal reliability not computed.
** Test-retest for items 33-36 only.
*** Test-retest for items 49-54 only.

be different from the researchers.

6. Experience gained by other researchers in other studies with the same or similar scales. Earlier sections of the chapter have indicated those scales on which there are published evaluative measures. The Patchen (1965) indices, for example, have been rigorously validated in his published studies.

Reference to Table 21, the various questionnaire items, and the tables of scale item correlations obtained on Questionnaires 1 and 2, suggests that all scales measure favorably against the criteria outlined above. Low test-retest reliabilities on several of the scales related to objectives clarity, difficulty, etc., can probably be explained by unfamiliarity of respondents with the objectives terminology. Training received by members of the treatment group overcomes this difficulty by the time Questionnaire 2 is administered. Terminology remains a potential problem for control group respondents, and this problem is discussed further in Chapter V in connection with methods of data analysis. The scales used to measure the dependent variables, and the scales used to define the non-objectives-related moderators do not suffer from a problem of terminology.

In general, it is claimed that the scales developed do a good job of operationalizing the variables of interest in the research model. Anyone using the scales should recognize the objectives terminology difficulty, and perhaps should attempt to overcome the problem by use of terms more familiar to the respondents.

The sections on data analysis and findings in Chapter V include additional narrative in support of the scales. See, in particular, discussion in the section on the job performance rating variable.

CHAPTER V

DATA ANALYSIS AND FINDINGS

Summary of Chapters I-IV

A brief review of the first four chapters of this report may be useful at this point, before discussing methods of data analysis employed and the results obtained.

Chapter I. MBO is defined and key variables are identified. Dependent variables of interest are:

a. Job Satisfaction

b. Job Motivation

c. Work Innovation

d. Organizational Identification

Potential moderating variables to be explored are:

a. Individual difference measures:

(1) Acceptance of job change

(2) Internal-external control belief

(3) Job performance rating

(4) Organizational level

(5) Organizational tenure

(6) Education

b. Organizational difference measures:

(1) Likert organizational profile

(2) Job influence

(3) Job interdependence

c. MBO process-related measures:

(1) Higher level emphasis on objectives

(2) Frequency of feedback on objectives performance

(3) Tie of rewards to objectives performance

(4) Objectives setting influence

(5) Objectives clarity

(6) Objectives difficulty

The research is concerned with the short-term effects of introducing MBO. Long term effects may be quite different from short term effects.

Chapter II. Hypotheses are developed for testing in the current research. In general, the major hypotheses state that introduction of MBO will result in increases in the levels of the four dependent variables. The minor hypotheses suggest a number of expected moderating effects on the dependent variables due to different levels of the 15 moderating variables.

Chapter III. The quasi-experimental design to be employed is discussed. The design employs a non-equivalent control group design. Pre-treatment and post-treatment data are to be collected through use of the research instrument described in Chapter IV. Use of the design allows controlling for such threats to validity as history, maturation, testing, and instrumentation.

The research site used in testing the hypotheses is a

local government in the metropolitan area of a large Southern city. The treatment consists of training in MBO members of five organizations, plus varied follow-up activities in implementing MBO in the five organizations. Heterogeneity of the treatment is discussed. Five other organizations are selected to serve as a control group. Three to six months after the MBO training, post-treatment data is collected via the questionnaire instrument. Data collection results are described.

Chapter IV. Development of the instrument and operationalization of the variables is described in Chapter IV. Pre-treatment, retest, and post-treatment data results are presented in support of the measures developed.

Preview of Chapters V and VI

Chapter V. The balance of this chapter discusses the method of data analysis employed in testing the hypotheses, and the results of the analysis. The data findings are discussed and summarized.

Chapter VI. Conclusions and implications for managing by objectives and future research are presented, together with final comments.

Required Data Analysis

This section describes the data analysis needed for major and minor hypothesis testing. Chapter III discussed the fact that the treatment actually occurring in the design

was heterogeneous. Testing of hypotheses will involve two stages of analysis. The major hypotheses concern the effects of the treatment, introduction of MBO, on the dependent variables. Due to the heterogeneous nature of the treatment, it is expected that the effects of the treatment on the dependent variables will not be strong.

The second stage of the analysis involves exploration of the moderating effects of 15 different variables--individual, organizational, and MBO process-related variables--on the four dependent variables. Comments received from members of the treatment group as outlined in Chapter III suggest that different people received different perceptions of MBO from the treatment employed. The intent of this portion of the data analysis is to test for moderating effects of a number of such potential variables.

Analysis of the individual and organizational difference moderators assumes equivalence of treatment across different moderator variable groupings. That is, for example, some short service people, some medium, and some long service people are each exposed to the various levels of the treatment. Thus, analysis of the data will detect whether the individual and organizational difference measures can be used to explain different levels of the dependent variables following introduction of MBO.

Analysis of the MBO process-related moderators assumes that these variables are intervening, or intermediate, between

the treatment and the dependent variables. The questions of interest are then, for example, do individuals who score high on the post-treatment measures of the intervening variables also score high on the dependent variables? This analysis is particularly important because of the heterogeneity of the treatment. Of interest is how those individuals grouped by the process-related moderator variables change on the dependent variable measures. Whatever the level of treatment experienced the relationship between the moderating variables and the dependent variables is the key issue.

The implications of such findings for practical application of MBO will be not how to introduce MBO, but rather what the introduction should achieve relative to objectives clarity, difficulty, etc., in order to affect the dependent variables as desired. In the case of the individual and organizational difference measures, the implication concerns the expected effects of any type of MBO intervention on different individuals in different situations.

Methods of Data Analysis

Only those respondents who returned both Questionnaire 1 and 2 are included in the hypothesis testing and data analysis. The number of responses was 106 of the original 150 people in the treatment group, of whom 133 had responded to Questionnaire 1. Of the 152 people in the control group,

123 completed the first questionnaire and 60 of these completed the second questionnaire.

Groups-by-trials analysis of variance is used as the major method for determining the significance of observed differences among the means of the treatment and control groups on the pretreatment and post-treatment measures. The design used is described by Veldman (1967) as being equivalent to a t test for correlated observations. Veldman's program, called ANOVAR, allows unequal numbers of subjects in multiple groups. Veldman cites several advanced statistical texts which discuss the computational formulas for his procedures, including Cooley and Lohnes (1962); Edwards (1960); McNemar (1962); and Winer (1962).

ANOVAR determines statistical significance levels of the differences between means of the treatment and control groups, between Questionnaire 1 and Questionnaire 2 trials, and of the interaction between groups and trials. The data which were presented in Table 3 and Table 4 are examples of the output of ANOVAR for two groups (treatment and control) and two trials (Questionnaires 1 and 2). The major hypotheses are tested directly through use of ANOVAR. The significant levels of interest are those of the groups-by-trial interactions, i.e., did the treatment group mean on the dependent variable change significantly more than the control group mean between trial 1 and trial 2?

Minor hypothesis testing also employs ANOVAR, but in

a different manner. Of interest in testing the minor hypotheses is whether or not the effects of the treatment on the dependent variables were moderated by levels of the individual, organizational, and MBO process-related difference measures. The changes occurring in the control group by moderating variable levels are used for comparison with the treatment group changes.

The approach employed consists of first making a moderator--grouping-by-trials analysis of variance for the treatment group and a similar analysis for the control group. Moderator grouping is accomplished by subdividing the treatment and control groups into three subgroups each in the case of all of the moderator variables but organizational level, and into two subgroups each on the organizational level variable. Grouping is roughly into one-third low, one-third medium, and one-third high. For convenience in sorting, all moderators were grouped by truncated scale scores, and, accordingly, the one-third grouping is not exact. Additionally, variables such as internal-external control were subgrouped by the standard internal, intermediate, and external score groupings, educational level into non-college, college, and graduate work subgroups, etc. Tables of data presented later in this chapter indicate the range of each moderator variable subgroup, and should serve to clarify the subgroupings used.

It should be emphasized that groupings were made

before any moderator variable data analysis was done, and the groups, once chosen, were not changed as the data analysis proceeded. It is quite possible that different subgroupings might have yielded slightly different results, but trying other groupings was not done in attempting to maintain the validity of the statistical analysis.

Having tested for significant levels of interaction within each of the groups, data which support the hypotheses, or which reveal interesting secondary findings, are graphed for comparison between the treatment and control groups. Results of the data analysis are then discussed and conclusions stated as to support or non-support for the minor hypotheses provided by the data.

Reference to the moderator variable analyses presented later in this chapter should clarify the preceding discussion.

It should be recognized that levels of significance on which to accept or reject the minor hypotheses are not obtained, other than indirectly in the within treatment and within control groups, trials, and groups-by-trials interaction significance levels. Developing such measures was beyond the scope of this research. Further, the researcher had doubts that valid assumptions on which to base the comparison of treatment group by moderator variable level with changes in the control group by moderator variable level could be determined. The changes by moderator variable level are assumed to be treatment dependent. One

function of the treatment was to clarify the "objectives" terminology for members of the treatment group. A threat exists that members of the control group, not having had MBO training, are responding to different item interpretation on Questionnaire 2 on the process-related moderators than are members of the treatment group. This possibility should be recognized in the discussion of the moderator variable data analysis presented later in this chapter.

Conclusions regarding the moderating relationships are largely a matter of the researcher's judgement, based on significance of interactions by moderator variable level groupings between Questionnaire 1 and Questionnaire 2 within the treatment and control groups. As was indicated earlier in this report, testing of the minor hypotheses is largely exploratory in nature. It is believed that the analysis described above is adequate for this purpose.

Analysis of Dependent Variables

Groups-by-trials analysis of variance was used in obtaining significance levels of changes in the dependent variables in the treatment group as compared with the control group. Table 22 contains the results for the four dependent variables: job motivation, organization identification, work innovation, and job satisfaction. The hypotheses concerning the short term attitudinal effects of MBO to be tested are:

1. Introduction of MBO increases job satisfaction.

Table 22. ANOVA: Dependent Variables

	No.	Q1	Q2	Groups p≤.89
Treatment	105	3.77	3.65	3.71
Control	60	3.65	3.80	3.73
Trials p≤.67	165	3.73	3.70	GxT p≤.019

Dependent Variable: Motivation

	No.	Q1	Q2	Groups p≤.31
Treatment	106	3.18	3.14	3.16
Control	60	3.32	3.24	3.29
Trials p≤.20	166	3.24	3.18	GxT p≤.64

Dependent Variable: Organization Identification

	No.	Q1	Q2	Groups p≤.67
Treatment	106	3.36	3.29	3.32
Control	60	3.34	3.04	3.19
Trials p≤.0039	166	3.35	3.20	GxT p≤.028

Dependent Variable: Work Innovation

	No.	Q1	Q2	Groups p≤.56
Treatment	106	3.99	3.99	3.99
Control	60	4.06	4.05	4.06
Trials p≤.89	166	4.02	4.01	GxT p≤.98

Dependent Variable: Job Satisfaction

2. Introduction of MBO increases employee motivation.
3. Introduction of MBO increases work innovation.
4. Introduction of MBO increases organization identification.

Job Satisfaction

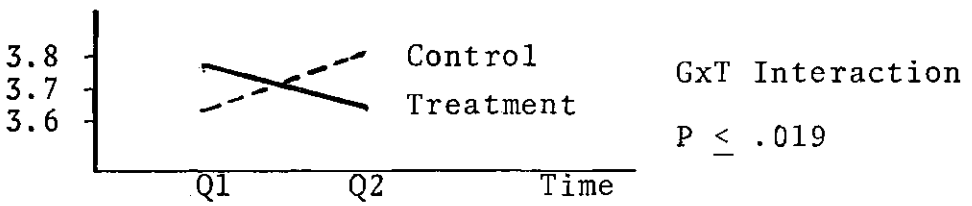
Reported levels of job satisfaction as measured by the 16-item job reaction scale did not change from the time of Questionnaire 1 to the time of Questionnaire 2 in either the treatment group or the control group. Furthermore, the difference between treatment and control group levels is not significant.

Hypothesis 1 is not supported, and the null hypothesis that introduction of MBO does not increase job satisfaction cannot be rejected.

Analysis of the sixteen items which constitute the job satisfaction scale reveals that the treatment group increased on two items, namely 99 (opportunity for worthwhile contributions) and 103 (frequency of receiving recognition for accomplishments); and decreased on three items: 100 (job could be dropped), 106 (organization as opportunity for learning), and 110 (interesting work). The control group increased on item 99 and decreased on items 106, 110, and 111 (think of quitting). The heterogeneous treatment did not noticeably affect the changes noted in the treatment group as compared with changes in the control group on any item but consideration of quitting.

Employee Motivation

Data from Table 22 may be shown graphically as follows:



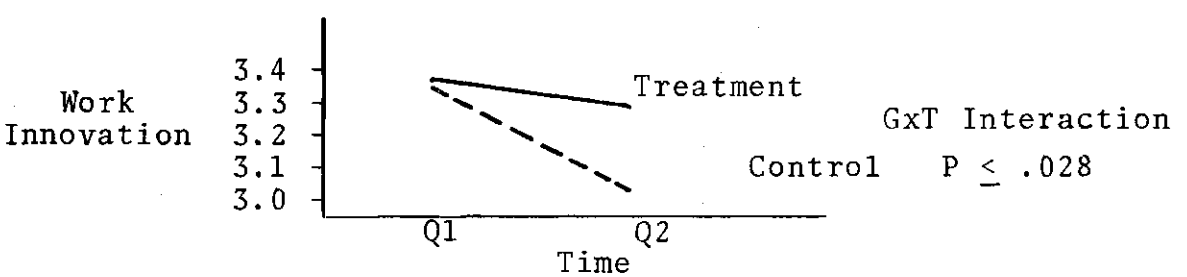
The MBO treatment group's job motivation decreases while the control group's job motivation increases. The interaction of groups-by-trials is significant at the .019 level. The hypothesis that MBO increases job motivation is not supported.

Analysis of the items which constitute the job motivation scale reveals that items 79, 80, and 81 all increase more in the control group than in the treatment group. Differences in changes on item 78 between the control group and the treatment group are not statistically significant. Item 78 asks "On most days on your job, how often does time seem to drag for you." This item might be considered a measure of lack of interest in the work, or boredom. It is likely that the MBO treatment did not affect this component. The other three items (79, 80, and 81), on the other hand, deal with involvement in the job, doing extra work, and working how hard, respectively. These items might very well be affected more by work load or methods of work than by

internally-felt needs or drives. Analysis of the changes in this dependent variable by divisional unit reveals that of the five treatment divisions, one increased on the variable, one remained the same and three decreased. The three divisions which decreased have all added people since Questionnaire 1. It is suggested that on a broad base and in response to a heterogeneous treatment, this dependent variable (at least as measured here) may be more sensitive to imposed workload than to the treatment. Analysis of the variable by different, more treatment-specific, moderators in later sections of this chapter should add to the understanding of the observed change in the variable.

Work Innovation

Data obtained from Table 22 on work innovation are graphed below:



While the treatment group's level of work innovation decreased slightly, the decrease in the control group is greater, as reflected by the significance level of the groups-by-trials interaction of .028. The data suggests that while the level of work innovation in the treatment group did not increase, the decrease occurring throughout the organization

was lessened in the group in which MBO was introduced.

The hypothesis that MBO increased work innovation is moderately supported by the data obtained for the treatment group relative to that obtained for the control group.

Analysis of the items that make up the work innovation scale shows that the items on which the control group levels decrease significantly more than the treatment group levels are items 74 and 75. On both of these items the treatment group levels increase while the control group levels decrease. These items are:

74. "In my kind of job, it is usually better to let your supervisor worry about new or better ways of doing things."

75. "How many times in the past year have you suggested to your supervisor a different or better way of doing something on the job?"

The training employed in the treatment actively encouraged interaction between supervisors and subordinates in objectives setting, definition of job responsibilities, etc. It is believed that the treatment did in fact act counter to a fairly wide-spread trend away from innovation that existed in the host organization. It is believed that the organization-wide trend was a complex reaction to a number of factors, including a change in Commission Chairmen, the limited success of several major innovations, and the departure from the organization of some key personnel, including a department head. This explanation, while admittedly speculative, seems entirely plausible to the researcher.

Organization Identification

Reference to Table 22 reveals that the groups-by-trials interaction on this variable is not statistically significant. The null hypothesis that introduction of MBO does not change organization identification cannot be rejected.

As will be evidenced in the analysis of moderating variables which follows, this dependent variable appears to be less sensitive to short term change than do the other three. The organization identification measure includes items dealing with reaction to criticism of the organization, desirability of family members working in the same organization, the likelihood of choosing the same organization if one could begin working over again, and the tendency to discuss the organization's activities with others. It is probably true that measures such as these remain fairly stable over long periods of time. Changes might well be expected in longitudinal studies of several year's duration, but probably not in the short term.

Summary

Of the four major hypotheses concerning the dependent variables, only the hypothesis that work innovation increases following the introduction of MBO receives support, and it gets support only because of the existence of the control group. On the other hand, innovation is a key target of the MBO training package which was employed in the treatment, and

it is likely that the observed better performance of this variable in the treatment group than in the control group is real.

As was suggested in Chapter III, the heterogeneity of the treatment probably did in fact decrease the treatment group-wide effects of the introduction of MBO. The analysis of moderating variables which is presented in the next section of this chapter provides further insights into the effects of the treatment on different types of individuals, groups, and situations.

Analysis of Moderator Variables

The next three sections present an analysis of the data obtained on the moderator variable effects on the dependent variables. A discussion of the analysis rationale is provided in the earlier section of this chapter on methods of data analysis.

It should be reemphasized that the analysis presented here is largely exploratory in nature, and the effort is directed more toward hypothesis generation than hypothesis testing. The analysis does, however, serve to provide insights into the more specific effects of the experimental treatment.

Individual Difference Variables

Internal-External Control Belief

Table 23 and the graphs below show the effects on

Table 23. ANOVA: Moderator Variable--Internal-External Control Belief

Dependent Variable: Motivation

Treatment

	No.	Q1	Q2	Groups p≤.58
*	30	3.79	3.86	3.82
**	24	3.86	3.73	3.80
***	46	3.77	3.52	3.64
Trials p≤.03	100	3.80	3.67	GxT p≤.076

Control

No.	Q1	Q2	Groups p≤.044
14	3.98	4.12	4.05
15	3.82	3.93	3.87
25	3.41	3.53	3.47
54	3.67	3.80	GxT p≤.995

Trials, p≤.28

Dependent Variable: Organization Identification

Treatment

	No.	Q1	Q2	Groups p≤.60
*	30	3.30	3.33	3.32
**	24	3.26	3.26	3.26
***	46	3.16	3.02	3.09
Trials p≤.31	100	3.23	3.17	GxT p≤.61

Control

No.	Q1	Q2	Groups p≤.74
14	3.29	3.07	3.18
15	3.29	3.46	3.37
25	3.29	3.19	3.24
54	3.29	3.23	GxT p≤.20

Trials, p≤.51

Dependent Variable: Work Innovation

Treatment

	No.	Q1	Q2	Groups p≤.044
*	30	3.56	3.68	3.62
**	24	3.38	3.30	3.34
***	46	3.27	3.07	3.17
Trials p≤.20	100	3.38	3.31	GxT p≤.068

Control

No.	Q1	Q2	Groups p≤.75
14	3.51	3.13	3.32
15	3.29	3.16	3.22
25	3.24	2.96	3.10
54	3.32	3.06	GxT p≤.64

Trials, p≤.0097

Dependent Variable: Job Satisfaction

Treatment

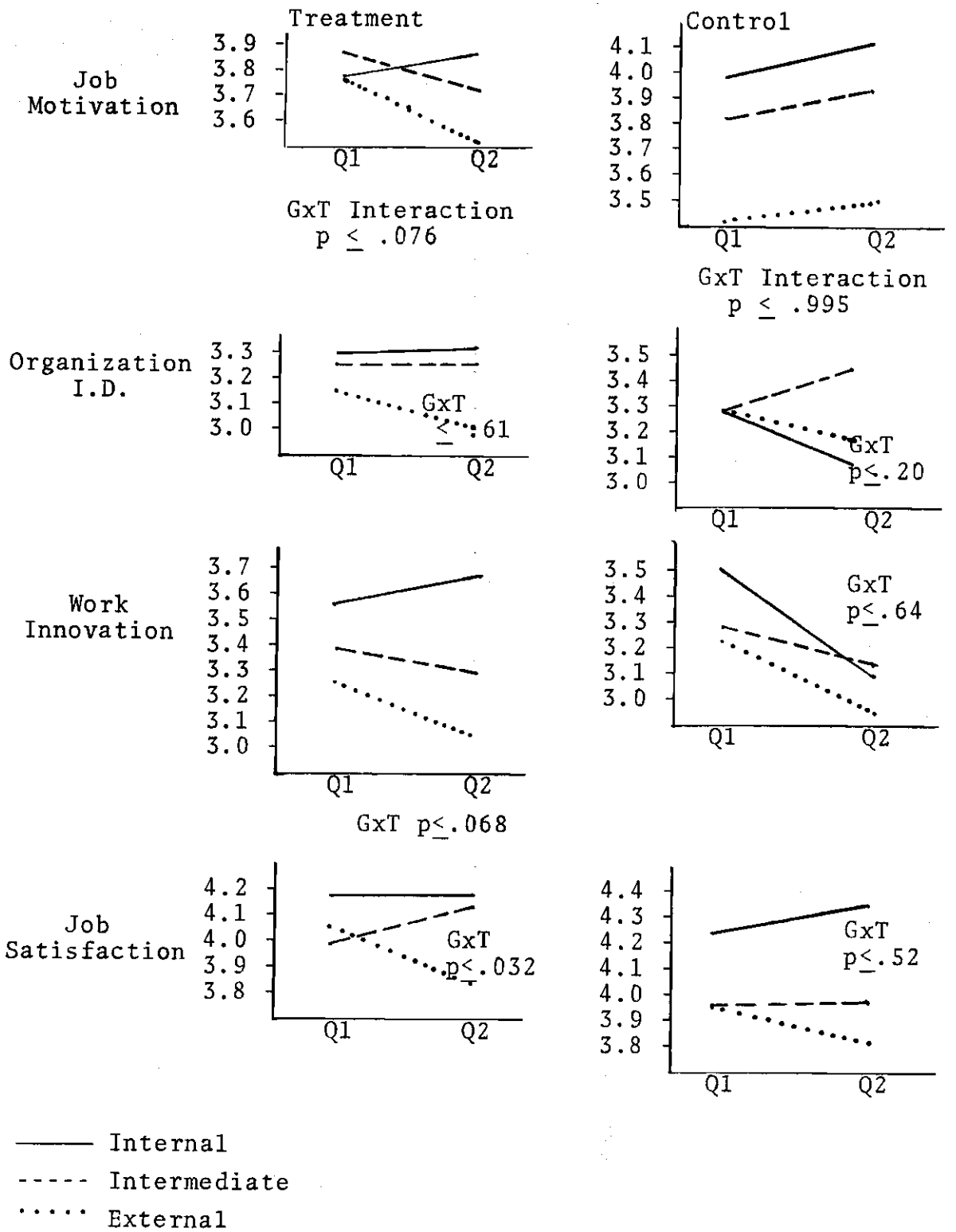
	No.	Q1	Q2	Groups p≤.37
*	30	4.17	4.17	4.17
**	24	3.89	4.13	4.01
***	46	4.05	3.88	3.97
Trials p≤.75	100	4.05	4.03	GxT p≤.032

Control

No.	Q1	Q2	Groups p≤.23
14	4.24	4.36	4.30
15	3.96	3.98	3.97
25	3.95	3.84	3.90
54	4.03	4.01	GxT p≤.52

Trials, p≤.84

* Internal
** Intermediate
*** External


Treatment
Control
Job Motivation
3.9
3.8
3.7
3.6
Q1
Q2
GxT Interaction
p ≤ .076
4.1
4.0
3.9
3.8
3.7
3.6
3.5
GxT Interaction
p ≤ .995
Organization I.D.
3.3
3.2
3.1
3.0
GxT
≤ .61
3.5
3.4
3.3
3.2
3.1
3.0
GxT
p≤.20
Work Innovation
3.7
3.6
3.5
3.4
3.3
3.2
3.1
3.0
GxT p≤.068
GxT
p≤.64
Job Satisfaction
4.2
4.1
4.0
3.9
3.8
GxT
p≤.032
4.4
4.3
4.2
4.1
4.0
3.9
3.8
GxT
p≤.52
Internal
Intermediate
External

levels of the dependent variables of dividing the treatment and control groups into subgroups of participants scoring low (internal), medium (intermediate), and high (external) on Rotter's Internal-External Control Belief scale.

Internals in the treatment group increase or remain the same on all four dependent variables. Intermediates in the treatment group increase on one dependent variable, decrease on two, and remain the same on one. Externals in the treatment group decrease on all four dependent variables. The consistent changes for the internals and externals do not occur in the control group, where both internals and externals increase on two and decrease on two dependent variables. Intermediates in the control group increase on three of the dependent variables and decrease on the fourth.

While the data do not offer conclusive support for the proposition that internals react positively to MBO, while externals react negatively, the levels of statistical significance obtained and the consistency of direction of changes not present in the control group suggest that such a mechanism does exist.

The suggestion that internals react more favorably to the introduction of MBO than do externals is wholly consistent with laboratory experiments in the area of internal-external control beliefs and the goal setting and performance areas. Although the observed short-term changes in the dependent variables are not of large magnitude, the statistical

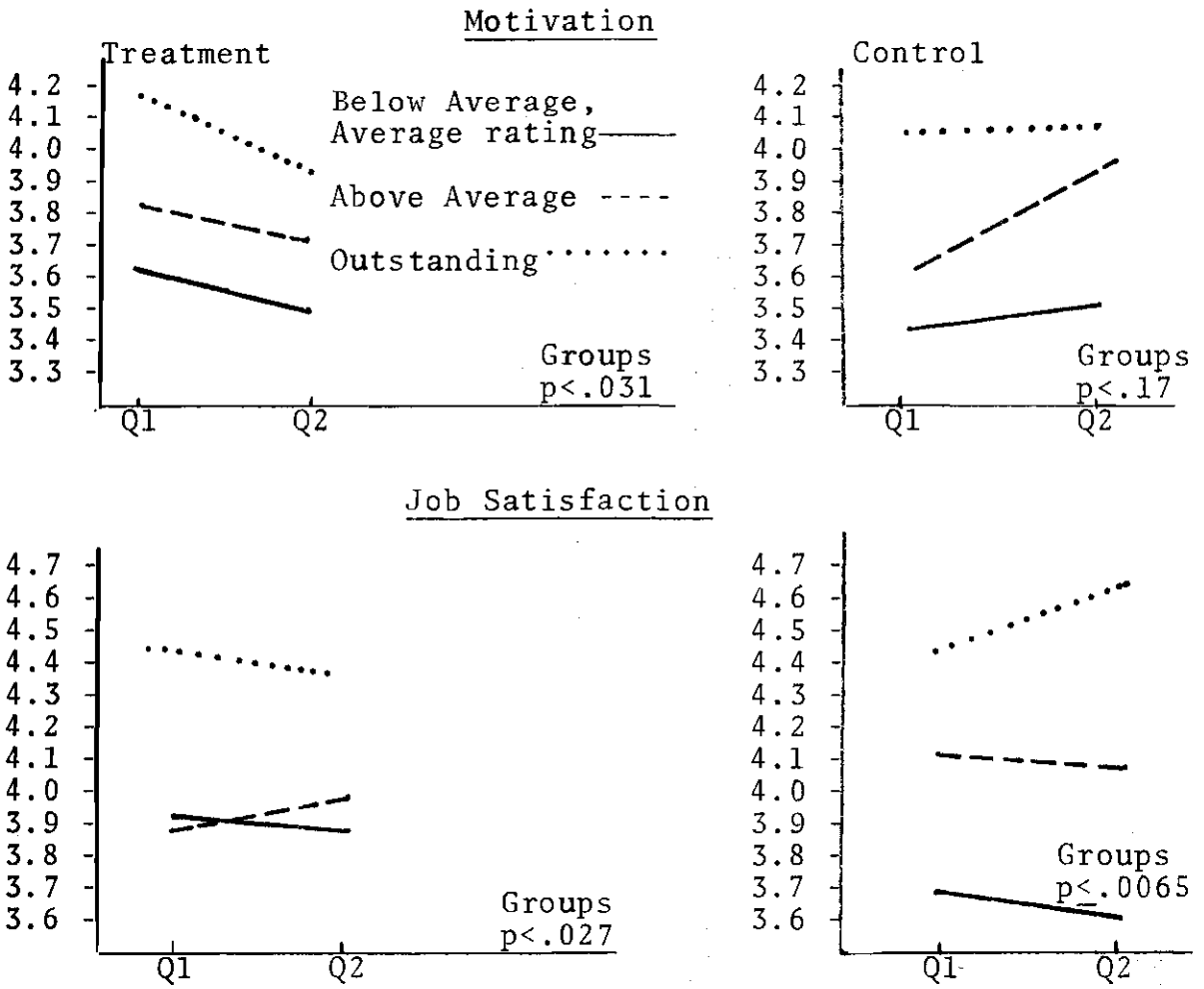
significance levels of the changes and the consistency of direction on all four dependent variables provides strong support for the minor hypothesis. Relating this finding to the description of internal-external control given in Chapter II suggests that internals see MBO as enhancing their ability to control their own destinies in the work organization, and, accordingly, they react favorably to the introduction of MBO.

This finding is consistent with Chesser's conclusions that "The finding that has the greatest potential implication of MBO is the moderating effects of certain Ghiselli dimensions. If the moderating effects are substantiated in further research, these implications seem clear. It means that a general response to MBO cannot be expected. Given that the participants differ on psychological dimensions, variability in the perceptions of their superiors, usefulness of the program, satisfaction with their job, and other variables will be observed. In a practical sense, this may mean that while MBO may be effective for some members of the organization it may, in fact, be counterproductive for other members." (Chesser, 1971, page 115).

Support for the moderating effects of internal-external control belief, coupled with Chesser's results using Ghiselli dimensions suggests strongly that individual differences must be considered in predicting the effectiveness of MBO.

Performance Rating

The data presented in Table 24 indicate that members of groups whose performance is rated high by their department heads rate their own job motivation higher than those rated low. The ratings also track with job satisfaction, with higher rated people expressing significantly higher job satisfaction in both treatment and control groups, than do lower rated individuals.



The most important aspect of this finding is the fact that job performance ratings were obtained using one method,

Table 24. ANOVA: Moderator Variable--Performance Rating

Dependent Variable: Motivation

	Treatment				Control			
	No.	Q1	Q2	Groups p≤.051	No.	Q1	Q2	Groups p≤.17
*	59	3.62	3.50	3.56	22	3.43	3.51	3.47
**	30	3.81	3.72	3.77	15	3.62	3.97	3.79
***	13	4.17	3.92	4.05	7	4.04	4.06	4.05
Trials p≤.04	101	3.75	3.62	GxT p≤.71	44	3.59	3.76	GxT p≤.60
					Trials, p≤.22			

Dependent Variable: Organization Identification

	Treatment				Control			
	No.	Q1	Q2	Groups p≤.85	No.	Q1	Q2	Groups p≤.14
*	59	3.11	3.10	3.11	22	3.18	3.04	3.11
**	30	3.19	3.19	3.19	15	3.42	3.29	3.36
***	13	3.29	3.10	3.20	7	3.66	3.71	3.69
Trials p≤.60	102	3.16	3.13	GxT p≤.58	44	3.34	3.23	GxT p≤.78
					Trials, p≤.24			

Dependent Variable: Work Innovation

	Treatment				Control			
	No.	Q1	Q2	Groups p≤.89	No.	Q1	Q2	Groups p≤.17
*	59	3.30	3.23	3.27	22	3.04	2.70	2.87
**	30	3.32	3.38	3.35	15	3.42	3.34	3.38
***	13	3.45	3.22	3.33	7	3.71	3.17	3.44
Trials p≤.62	102	3.33	3.27	GxT p≤.36	44	3.28	2.99	GxT p≤.58
					Trials, p≤.019			

Dependent Variable: Job Satisfaction

	Treatment				Control			
	No.	Q1	Q2	Groups p≤.027	No.	Q1	Q2	Groups p≤.0065
*	59	3.91	3.86	3.88	22	3.69	3.60	3.64
**	30	3.88	3.97	3.93	15	4.11	4.08	4.10
***	13	4.44	4.37	4.41	7	4.44	4.64	4.54
Trials p≤.86	102	3.97	3.96	GxT p≤.59	44	3.95	3.93	GxT p≤.55
					Trials, P≤.81			

* Below Average, Average
** Above Average
*** Outstanding

department heads' rating, while the dependent variables, job motivation and job satisfaction were measured using the research questionnaire and its individual self-report measures. Yet, the department heads' ratings very clearly identify the job motivation and job satisfaction groupings.

The implication of this finding is that department heads are in fact rating individuals on their effort, or motivation, or on how hard they work. The finding also offers support for the idea that job satisfaction is associated with job motivation, although it does not identify which is the causal variable.

The consistency of these interpretations is thought to add an additional bit of evidence for the validity of the questionnaire measures.

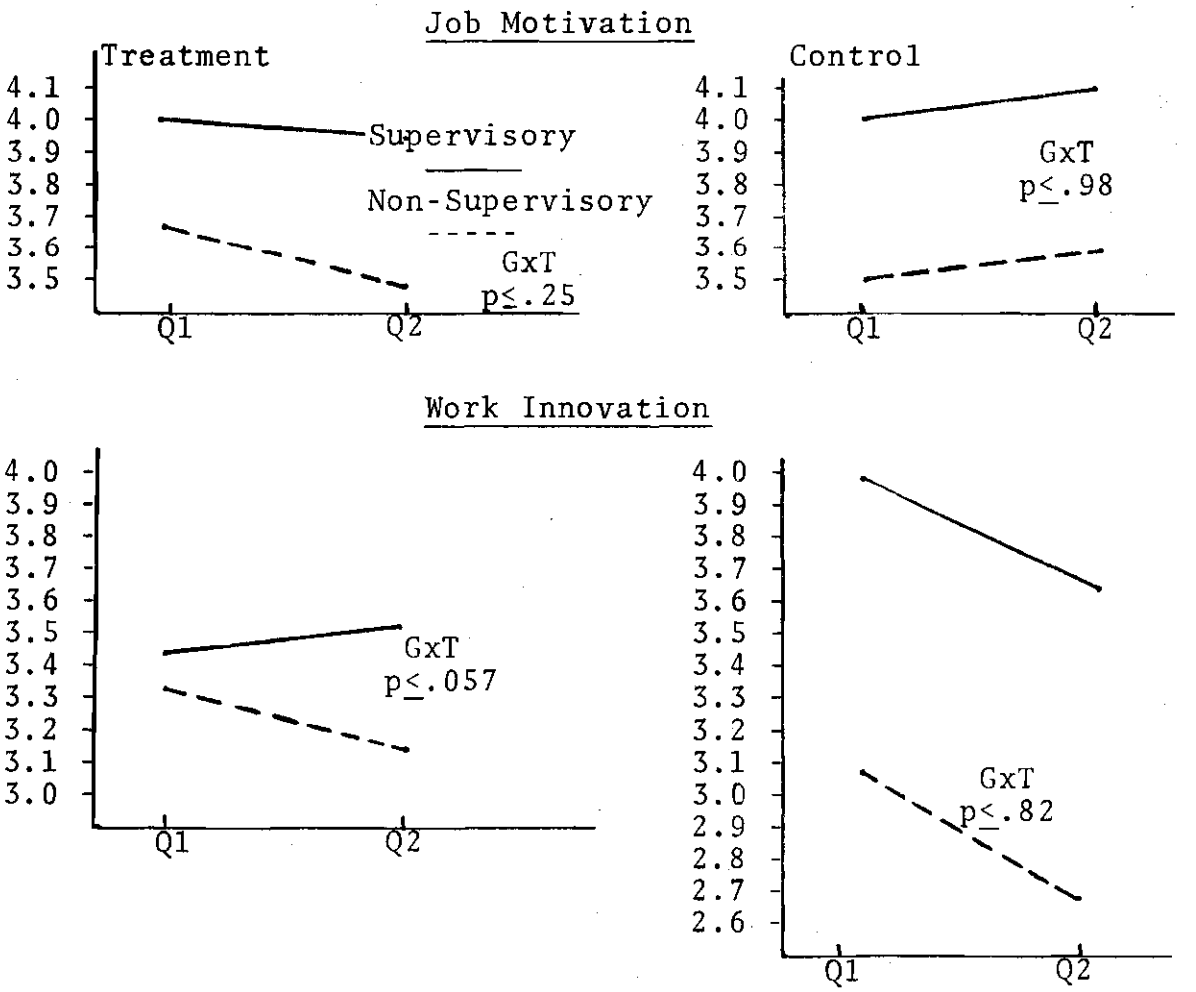
On the other hand, more data are needed concerning the effects of job performance, or job performance rating, as a moderator of the effects of introducing MBO. The data obtained in this research provide a weak suggestion that the job satisfaction of people whose performance is rated high decreases while the satisfaction of people whose performance is rated medium increases following the introduction of MBO. The null hypothesis is not rejected.

Organizational Level

Respondents are divided into supervisory and non-supervisory subgroups in analyzing the potential moderating effects of organizational level. Data are presented in

Table 25. It had been hypothesized that supervisory people would show more positive effects of MBO introduction than would non-supervisors.

The data provide weak support of the hypothesis in the case of motivation and work innovation, as is indicated by the graphs presented below:



Supervisors score higher than non-supervisory people on all of the dependent variables but organization identification, on which the difference is not significant.

This finding is not surprising considering the key role

Table 25. ANOVA: Moderator Variable--Organizational Level

Dependent Variable: Motivation

	Treatment				Control			
	No.	Q1	Q2	Groups p≤.0031	No.	Q1	Q2	Groups p≤.018
*	37	3.99	3.95	3.97	19	4.00	4.11	4.06
**	64	3.66	3.48	3.57	37	3.50	3.61	3.56
Trials p≤.028	101	3.78	3.65	GxT p≤.25	56	3.67	3.78	GxT p≤.98
					Trials, p≤.31			

Dependent Variable: Organization Identification

	Treatment				Control			
	No.	Q1	Q2	Groups p≤.58	No.	Q1	Q2	Groups p≤.76
*	38	3.25	3.25	3.25	19	3.33	3.17	3.25
**	64	3.14	3.10	3.12	37	3.34	3.28	3.31
Trials p≤.68	102	3.18	3.16	GxT p≤.77	56	3.34	3.24	GxT p≤.58
					Trials, p≤.25			

Dependent Variable: Work Innovation

	Treatment				Control			
	No.	Q1	Q2	Groups p≤.145	No.	Q1	Q2	Groups p≤.0004
*	38	3.43	3.51	3.47	19	3.97	3.65	3.81
**	64	3.32	3.15	3.23	37	3.07	2.70	2.88
Trials p≤.23	102	3.36	3.28	GxT p≤.057	56	3.37	3.02	GxT p≤.82
					Trials, p≤.0009			

Dependent Variable: Job Satisfaction

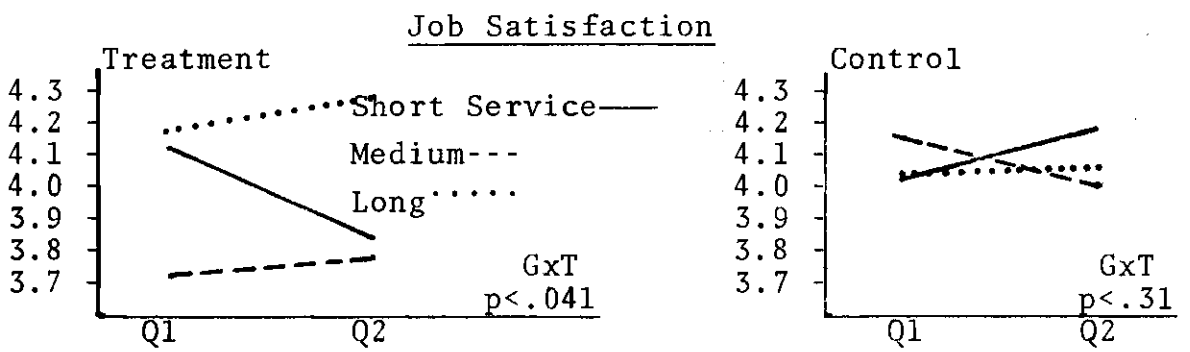
	Treatment				Control			
	No.	Q1	Q2	Groups p≤.031	No.	Q1	Q2	Groups p≤.052
*	38	4.19	4.16	4.18	19	4.32	4.33	4.33
**	64	3.87	3.91	3.89	37	3.93	3.91	3.92
Trials p≤.87	102	3.99	4.00	GxT p≤.62	56	4.07	4.06	GxT p≤.86
					Trials, p≤.91			

* Supervisory
** Non-Supervisory

played by supervisors in the MBO process. It may also help to explain the claims for increased motivation in the many case studies and the several statistically-based empirical studies which involved the reactions only of management people to MBO. The suggestion that non-supervisory people may actually react negatively to MBO is worthy of further research.

Organization Tenure

Short service people showed a greater decrease in job satisfaction following introduction of MBO than did medium and long service people. See Table 26.



One possible explanation of this finding is that people join the organization with high initial expectations of job satisfaction--one reason for accepting employment. MBO training sessions and follow-up activities accelerate the process of recognizing that the initial high expectation may not be realized.

Educational Level

Reference to Table 27 suggests that the more educated

Table 26. ANOVA: Moderator Variable--Organizational Tenure

Dependent Variable: Motivation

	Treatment				Control			
	No.	Q1	Q2	Groups $p \leq .0001$	No.	Q1	Q2	Groups $p \leq .64$
Low	24	3.46	3.33	3.40	5	4.00	4.05	4.02
Medium	38	3.59	3.48	3.53	22	3.69	3.62	3.66
High	43	4.10	3.98	4.04	33	3.58	3.87	3.72
Trials $p \leq .049$	105	3.77	3.65	GxT $p \leq .99$	60	3.65	3.80	GxT $p \leq .24$
					Trials, $p \leq .17$			

Dependent Variable: Organization Identification

	Treatment				Control			
	No.	Q1	Q2	Groups $p \leq .098$	No.	Q1	Q2	Groups $p \leq .99$
Low	24	3.20	3.01	3.11	5	3.52	3.12	3.32
Medium	38	2.98	2.98	2.98	22	3.30	3.26	3.28
High	44	3.35	3.35	3.35	33	3.32	3.25	3.28
Trials $p \leq .53$	106	3.18	3.14	GxT $p \leq .61$	60	3.33	3.24	GxT $p \leq .52$
					Trials, $p \leq .27$			

Dependent Variable: Work Innovation

	Treatment				Control			
	No.	Q1	Q2	Groups $p \leq .76$	No.	Q1	Q2	Groups $p \leq .52$
Low	24	3.51	3.33	3.42	5	3.67	3.57	3.62
Medium	38	3.32	3.22	3.27	22	3.31	2.89	3.10
High	44	3.31	3.33	3.32	33	3.32	3.07	3.19
Trials $p \leq .27$	106	3.36	3.29	GxT $p \leq .58$	60	3.35	3.04	GxT $p \leq .59$
					Trials, $p \leq .0027$			

Dependent Variable: Job Satisfaction

	Treatment				Control			
	No.	Q1	Q2	Groups $p \leq .0047$	No.	Q1	Q2	Groups $p \leq .99$
Low	24	4.11	3.83	3.97	5	4.01	4.19	4.10
Medium	38	3.71	3.77	3.74	22	4.14	4.00	4.07
High	44	4.17	4.26	4.21	33	4.02	4.07	4.04
Trials $p \leq .93$	106	3.99	3.99	GxT $p \leq .041$	60	4.06	4.05	GxT $p \leq .31$
					Trials, $p \leq .91$			

$0 <$ Low < 1 Yr.
$1 \leq$ Medium < 5
$5 \leq$ High

(Amount of Service)

Table 27. ANOVA: Moderator Variable--Educational Level

Dependent Variable: Motivation

	Treatment				Control			
	No.	Q1	Q2	Groups p≤.24	No.	Q1	Q2	Groups p≤.58
*	25	3.68	3.52	3.60	40	3.57	3.73	3.65
**	34	3.64	3.62	3.63	8	3.87	3.97	3.92
***	46	3.91	3.75	3.83	12	3.77	3.90	3.83
Trials p≤.048	105	3.77	3.65	GxT p≤.55	60	3.65	3.80	GxT p≤.98
					Trials, p≤.18			

Dependent Variable: Organization Identification

	Treatment				Control			
	No.	Q1	Q2	Groups p≤.34	No.	Q1	Q2	Groups p≤.55
*	25	3.33	3.28	3.30	40	3.25	3.16	3.21
**	34	2.98	3.04	3.01	8	3.66	3.20	3.43
***	47	3.25	3.14	3.20	12	3.37	3.55	3.46
Trials p≤.53	106	3.18	3.14	GxT p≤.54	60	3.33	3.24	GxT p≤.06
					Trials, p≤.25			

Dependent Variable: Work Innovation

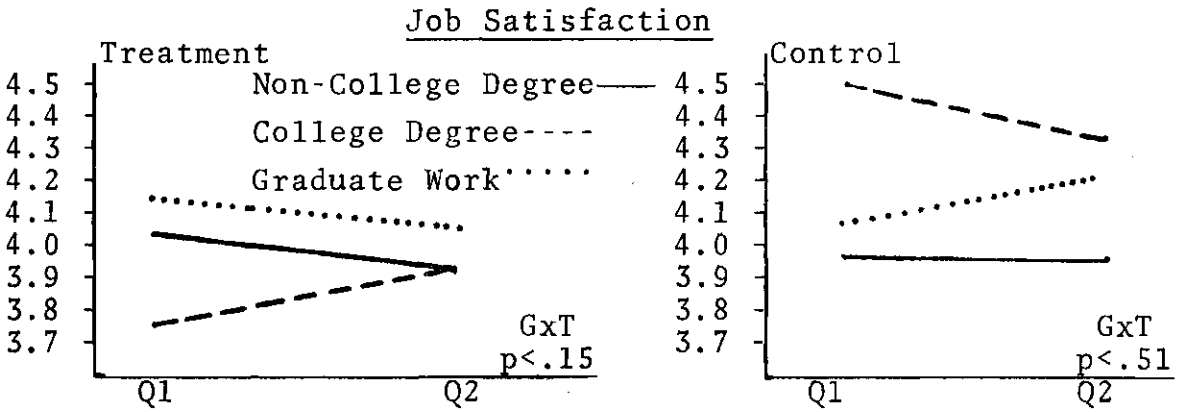
	Treatment				Control			
	No.	Q1	Q2	Groups p≤.0001	No.	Q1	Q2	Groups p≤.044
*	25	2.83	2.70	2.76	40	3.17	2.82	2.99
**	34	3.29	3.33	3.31	8	3.67	3.44	3.55
***	47	3.69	3.57	3.63	12	3.72	3.53	3.62
Trials p≤.27	106	3.36	3.29	GxT p≤.56	60	3.35	3.04	GxT p≤.78
					Trials, p≤.0028			

Dependent Variable: Job Satisfaction

	Treatment				Control			
	No.	Q1	Q2	Groups p≤.17	No.	Q1	Q2	Groups p≤.2?
*	25	4.03	3.92	3.97	40	3.97	3.95	3.96
**	34	3.76	3.92	3.84	8	4.50	4.33	4.42
***	47	4.14	4.08	4.11	12	4.08	4.20	4.14
Trials p≤.93	106	3.99	3.99	GxT p≤.15	60	4.06	4.05	GxT p≤.51
					Trials, p≤.91			

* No College Degree
** College Degree
*** Graduate Work

people in both the treatment and the control group are more innovative than the less educated people in the two groups.



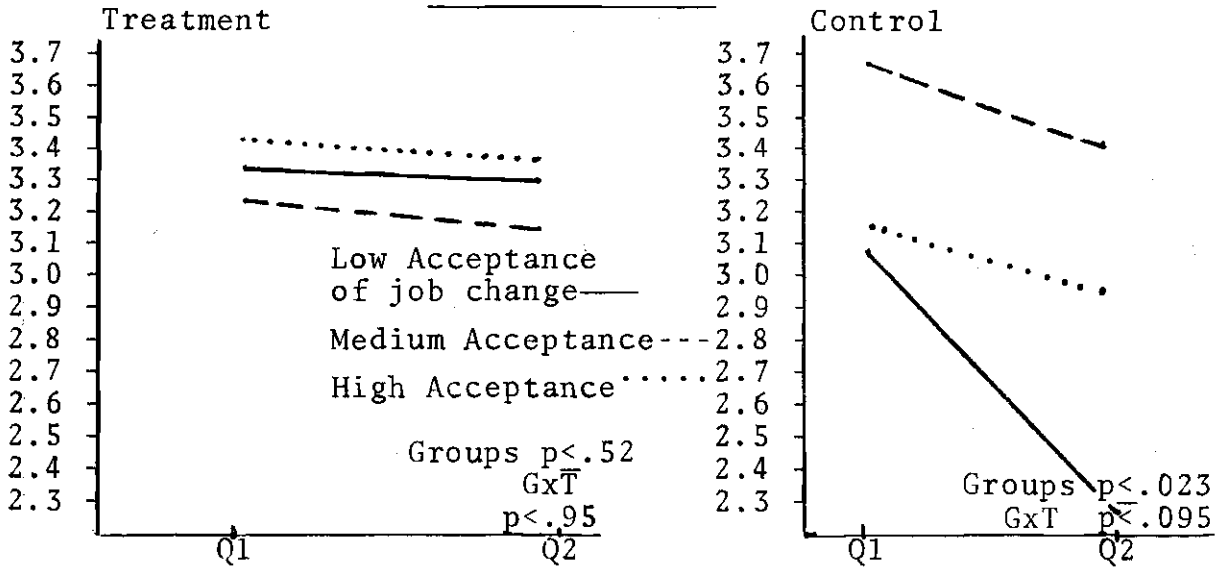
Weak support is provided for the proposition that people with college degrees but no graduate work as a group show increased job satisfaction following introduction of MBO while people with graduate degree work show reduced job satisfaction. This finding may suggest that MBO is keyed toward people with moderate levels of education. The more highly-educated view the process as one which limits their activities. Many of the advanced degree people hold professional jobs such as psychologist, counselor, etc., and may feel that MBO is not applicable to professional jobs. (Note several of the comments in Chapter III.)

Additional research is needed in order to further support the hypothesis. The above suggestions may imply that application of MBO in organizations of highly-educated professionals needs further study.

Acceptance of Job Change

The data presented in Table 28 shows that persons who score high on acceptance of job change also score high on job motivation, organization identification, and job satisfaction, and vice versa. The exception to this pattern is work innovation, which is included in the graphs of the dependent variables shown below:

Work Innovation



Job Motivation

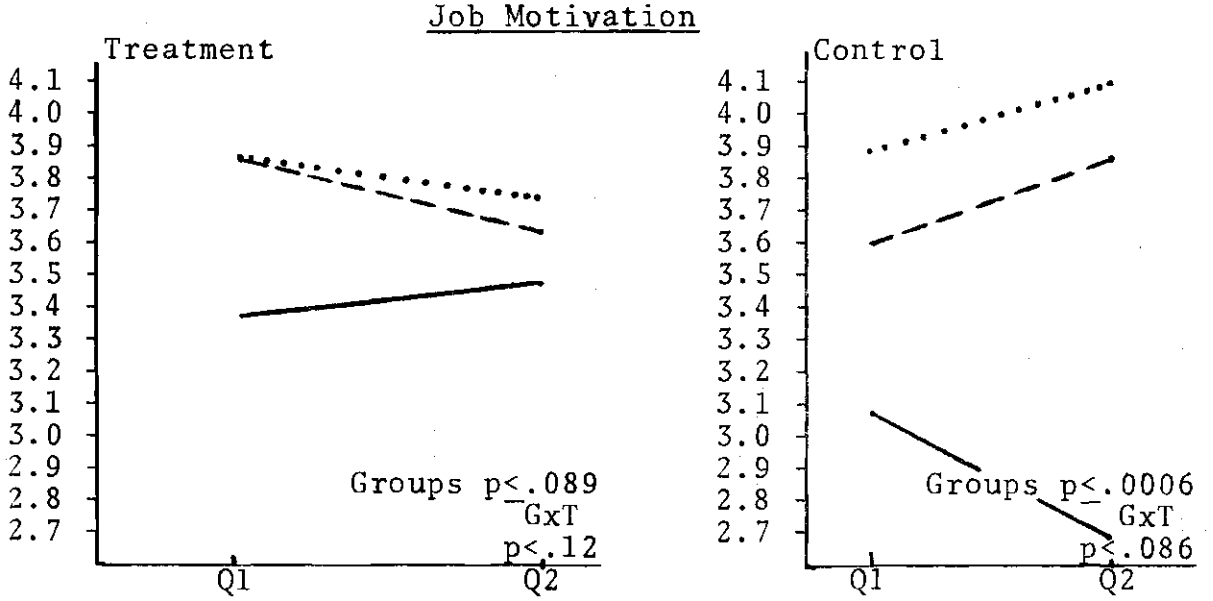


Table 28. ANOVA: Moderator Variable--Acceptance of Job Change

Dependent Variable: Motivation

	Treatment				Control			
	No.	Q1	Q2	Groups p≤.089	No.	Q1	Q2	Groups p≤.0206
Low	20	3.37	3.49	3.43	9	3.08	2.69	2.89
Medium	33	3.86	3.63	3.75	24	3.60	3.87	3.74
High	51	3.86	3.75	3.80	27	3.89	4.10	3.99
Trials p≤.066	104	3.77	3.66	GxT p≤.12	60	3.65	3.80	GxT p≤.086

Trials, p≤.16

Dependent Variable: Organization Identification

	Treatment				Control			
	No.	Q1	Q2	Groups p≤.0044	No.	Q1	Q2	Groups p≤.0010
Low	21	2.65	2.85	2.75	9	2.76	2.47	2.61
Medium	33	3.15	2.98	3.07	24	3.30	3.16	3.23
High	51	3.42	3.36	3.39	27	3.55	3.57	3.56
Trials p≤.56	105	3.18	3.14	GxT p≤.076	60	3.33	3.24	GxT p≤.36

Trials, p≤.26

Dependent Variable: Work Innovation

	Treatment				Control			
	No.	Q1	Q2	Groups p≤.52	No.	Q1	Q2	Groups p≤.025
Low	21	3.33	3.30	3.31	9	3.07	2.29	2.68
Medium	33	3.23	3.16	3.20	24	3.67	3.42	3.54
High	51	3.43	3.37	3.40	27	3.15	2.96	3.05
Trials p≤.63	105	3.35	3.29	GxT p≤.95	60	3.35	3.04	GxT p≤.095

Trials, p≤.002

Dependent Variable: Job Satisfaction

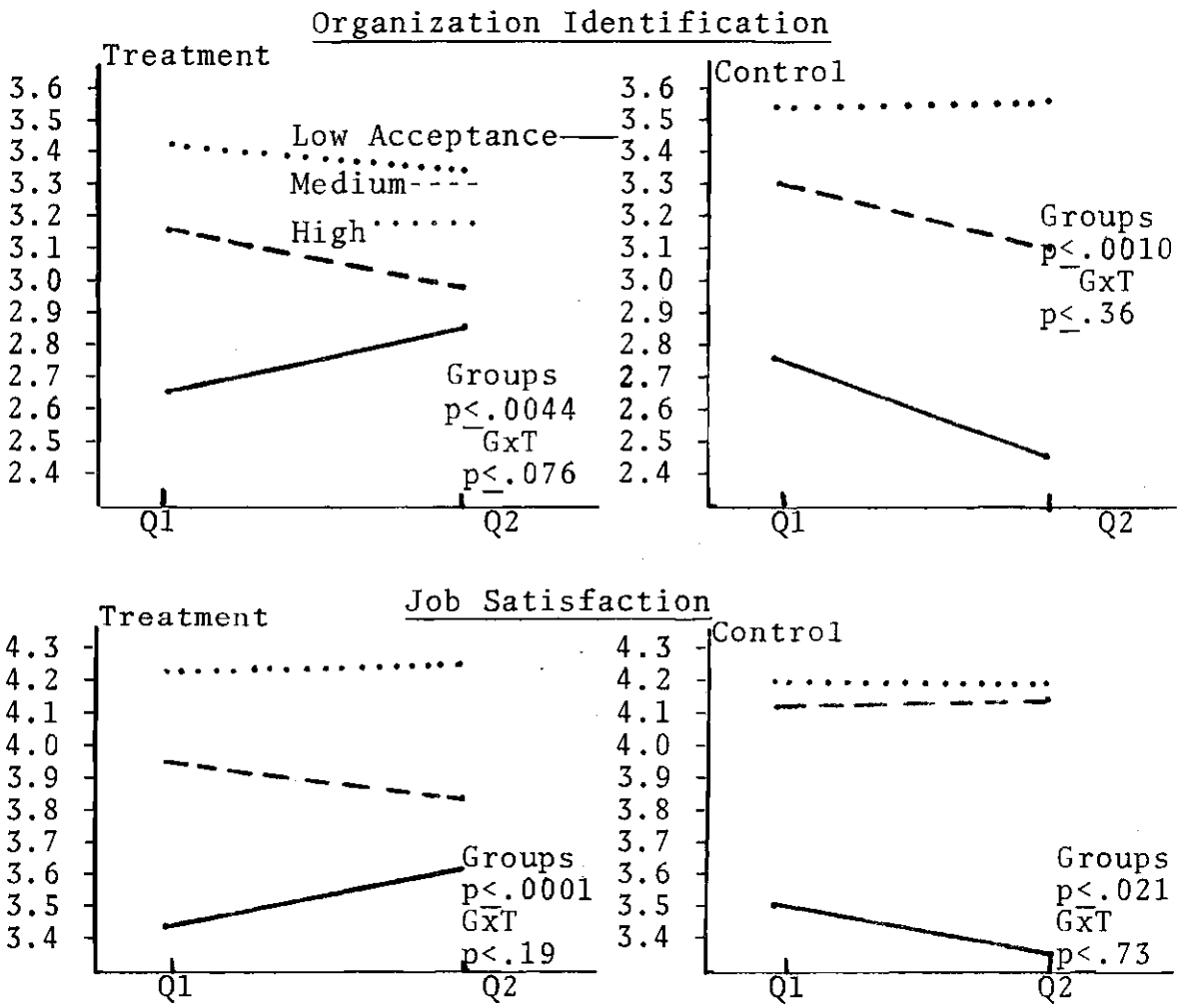
	Treatment				Control			
	No.	Q1	Q2	Groups p≤.0001	No.	Q1	Q2	Groups p≤.021
Low	21	3.43	3.61	3.52	9	3.50	3.36	3.43
Medium	33	3.95	3.84	3.90	24	4.12	4.14	4.13
High	51	4.22	4.25	4.24	27	4.20	4.20	4.20
Trials p≤.85	105	3.98	3.99	GxT p≤.19	60	4.06	4.05	GxT p≤.73

Trials, p≤.92

1≤Low<3

3≤Medium<4 (Average of 5 5-Point Scales--Q1)

4≤High≤5



The data presented above suggest a rather surprising moderating relationship: Persons scoring low on acceptance of job change react more positively to the introduction of MBO than do those scoring medium or high.

Tempering this finding is an analysis of the change in the acceptance of job change measure between Questionnaire 1 and Questionnaire 2 which is depicted in Table 29.

As with all of the individual difference moderating variables the acceptance of job change scale used to

Table 29. ANOVA: Acceptance of Job Change

	Treatment					Control				
	No.	Q1	Q2	Groups p≤.0000		No.	Q1	Q2	Groups p≤.0000	
Low	21	2.28	2.85	2.57		9	2.37	2.83	2.60	
Medium	33	3.51	3.59	3.55		24	3.55	3.44	3.49	
High	51	4.24	3.98	4.11		27	4.37	3.89	4.13	
Trials p≤.84	105	3.62	3.63	GxT p≤.0001	Trials p≤.025	60	3.74	3.55	GxT p≤.0018	

establish the subgroups is that measured on Questionnaire 1. Reference to Table 29 shows that the low level groups in both treatment and control score sizeable gains on the acceptance of job change scale between Questinnaire 1 and Questionnaire 2, even though the levels at Questionnaire 2 are still significantly lower than the higher levels. The higher levels decrease during the same period.

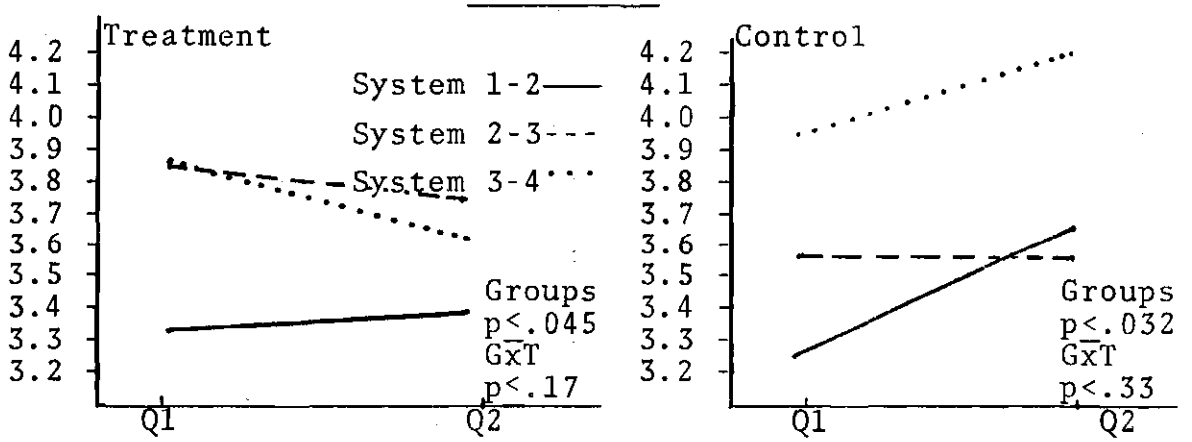
A possible explanation of the data showing the moderating effects of acceptance of job change is that because the scale taps items dealing with <u>past</u> changes, exposure to MBO may in fact lead to low levels becoming more receptive to job change. This explanation does not, however, explain why low levels in the control group score higher on acceptance of job change at the same time they score lower on the dependent variables. Further discussion of the acceptance of change variable is included in the final section of this chapter.

Organizational Difference Variables

Likert Organizational Profile

Data obtained by using subgroups of people who perceive the organization to be System 1 to 2, System 2 to 3, and System 3 to 4 are given in Table 30.

Motivation



Organization Identification

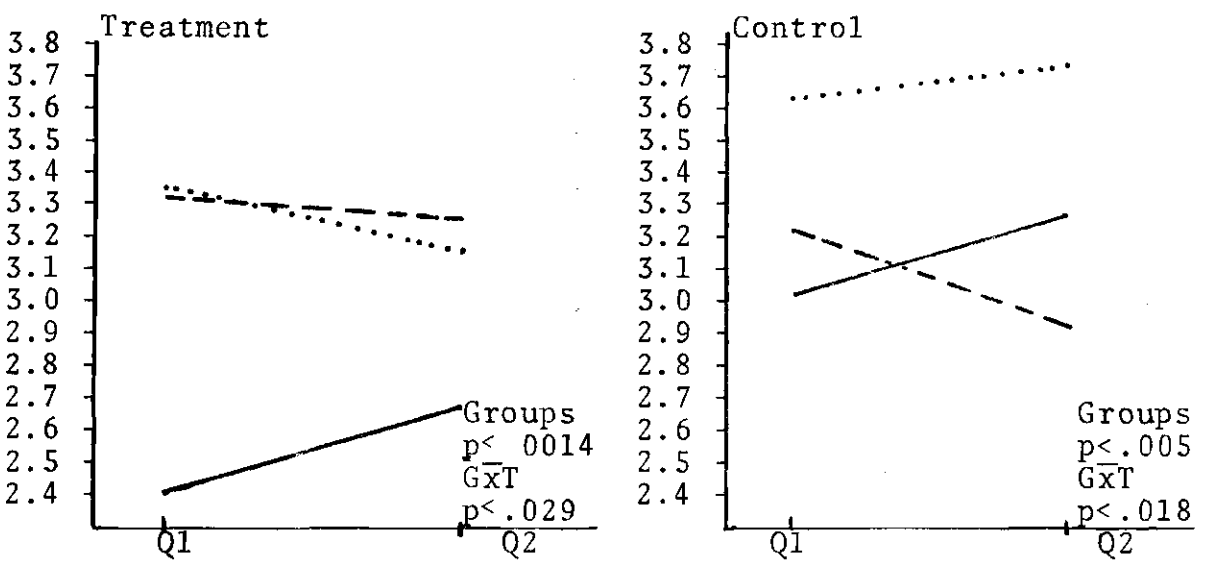


Table 30. ANOVA: Moderator Variable--Likert Organizational Profile

Dependent Variable: Motivation

	Treatment				Control			
	No.	Q1	Q2	Groups p≤.045	No.	Q1	Q2	Groups p≤.032
Low	17	3.32	3.40	3.36	8	3.25	3.66	3.45
Medium	50	3.85	3.76	3.81	32	3.57	3.58	3.57
High	38	3.86	3.62	3.74	20	3.95	4.20	4.08
Trials p≤.045	105	3.77	3.65	GxT p≤.17	60	3.65	3.80	GxT p≤.33

Trials, p≤.17

Dependent Variable: Organization Identification

	Treatment				Control			
	No.	Q1	Q2	Groups p≤.0014	No.	Q1	Q2	Groups p≤.0053
Low	17	2.40	2.67	2.54	8	3.02	3.27	3.15
Medium	50	3.32	3.27	3.29	32	3.22	2.93	3.07
High	39	3.35	3.18	3.27	20	3.63	3.73	3.68
Trials p≤.54	106	3.18	3.14	GxT p≤.029	60	3.33	3.24	GxT p≤.018

Trials, p≤.24

Dependent Variable: Work Innovation

	Treatment				Control			
	No.	Q1	Q2	Groups p≤.067	No.	Q1	Q2	Groups p≤.55
Low	17	2.94	3.10	3.02	8	3.60	3.24	3.42
Medium	50	3.32	3.22	3.27	32	3.22	2.89	3.06
High	39	3.59	3.46	3.52	20	3.44	3.20	3.32
Trials p≤.27	106	3.36	3.29	GxT p≤.27	60	3.35	3.04	GxT p≤.89

Trials, p≤.0028

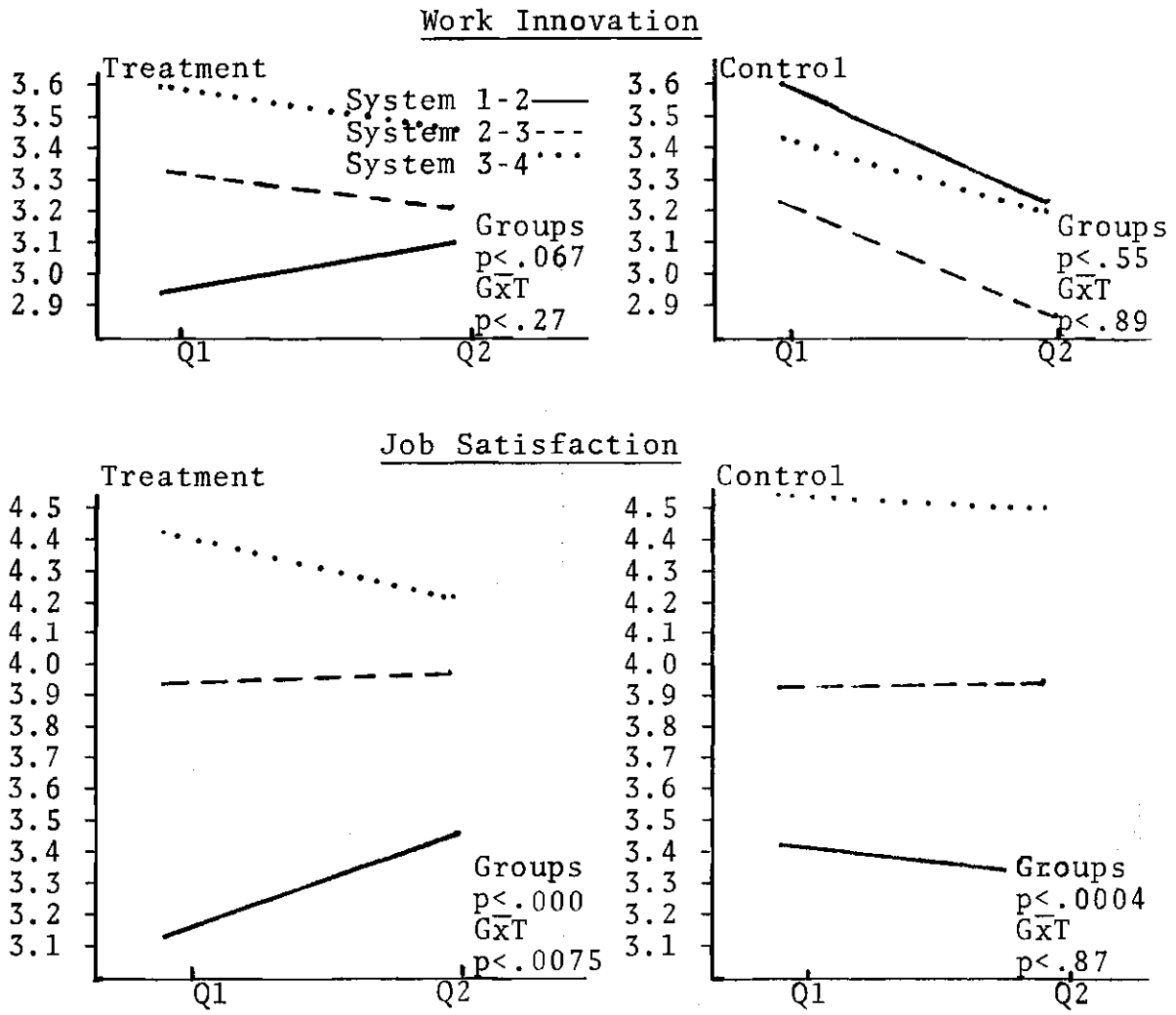
Dependent Variable: Job Satisfaction

	Treatment				Control			
	No.	Q1	Q2	Groups p≤.0000	No.	Q1	Q2	Groups p≤.0003
Low	17	3.13	3.46	3.29	8	3.42	3.34	3.38
Medium	50	3.94	3.98	3.96	32	3.92	3.94	3.93
High	39	4.43	4.22	4.33	20	4.55	4.51	4.52
Trials p≤.93	106	3.99	3.99	GxT p≤.0075	60	4.06	4.05	GxT p≤.87

Trials, p≤.91

(Average of 18 4-Point Scales-System 1, 2, 3, 4)

Low, System 1
Medium, System 2
High, Systems 3, 4



Persons who perceive their organization to be "System 3" or "System 4" score higher on all dependent variables than do persons who perceive the organization as being "System 1" or "System 2". The single exception is in the control group where differences between subgroup levels on the work innovation variable are not significant.

The data suggest that the introduction of MBO results in decreased levels of the dependent variables for the subgroup which initially perceived the organization to be higher

on the Likert scale and increased levels for the subgroup perceiving the lower initial Likert scale values. Or, those who are "happy" with the organization as it is react negatively to the introduction of MBO, while those who are "unhappy" welcome MBO. To the extent that this explanation is accurate, it refutes the claimed need for a supportive climate in which to introduce MBO if MBO is to be effective.

On the other hand, the implication for practice may be that introducing MBO into an organization already high on the Likert scale may lead to reduced levels on the dependent variables. But, conversely, if the organization is already low on the Likert scale there is little left to lose by introducing MBO--and MBO may help.

Job Influence

The data presented in Table 31 show that people who perceive their job influence as high score significantly higher on job motivation, organization identification, work innovation, and job satisfaction than do people who perceive their job influence as being low.

The data do not support the hypothesis that the greater the influence an individual has over his job, the greater the effects of MBO on the dependent variables.

Job Interdependence

Data on job interdependence as a moderator is given in Table 32. Analysis of the data suggests that higher interdependence may be associated with higher job motivation

Table 31. ANOVA: Moderator Variable--Job Influence

Dependent Variable: Motivation

	Treatment				Control			
	No.	Q1	Q2	Groups p≤.0012	No.	Q1	Q2	Groups p≤.0002
Low	41	3.49	3.37	3.43	26	3.23	3.35	3.29
Medium	21	3.80	3.75	3.77	8	3.84	3.66	3.75
High	43	4.02	3.88	3.95	26	4.02	4.29	4.15
Trials p≤.049	105	3.77	3.65	GxT p≤.84	60	3.65	3.80	GxT p≤.37
					Trials, p≤.168			

Dependent Variable: Organization Identification

	Treatment				Control			
	No.	Q1	Q2	Groups p≤.0089	No.	Q1	Q2	Groups p≤.047
Low	41	2.93	2.82	2.87	26	3.09	3.00	3.04
Medium	21	3.39	3.28	3.34	8	3.72	3.42	3.57
High	44	3.32	3.38	3.35	26	3.45	3.43	3.44
Trials p≤.53	106	3.18	3.14	GxT p≤.35	60	3.33	3.24	GxT p≤.51
					Trials, p≤.27			

Dependent Variable: Work Innovation

	Treatment				Control			
	No.	Q1	Q2	Groups p≤.0017	No.	Q1	Q2	Groups p≤.36
Low	41	3.09	2.89	2.99	26	3.21	2.81	3.01
Medium	21	3.47	3.38	3.42	8	3.48	3.02	3.25
High	44	3.55	3.62	3.59	26	3.44	3.28	3.36
Trials p≤.26	106	3.36	3.29	GxT p≤.13	60	3.35	3.04	GxT p≤.60
					Trials, p≤.0025			

Dependent Variable: Job Satisfaction

	Treatment				Control			
	No.	Q1	Q2	Groups p≤.0000	No.	Q1	Q2	Groups p≤.0005
Low	41	3.65	3.49	3.57	26	3.69	3.56	3.63
Medium	21	4.13	4.07	4.10	8	4.38	4.44	4.41
High	44	4.25	4.41	4.33	26	4.33	4.42	4.37
Trials p≤.93	106	3.99	3.99	GxT p≤.046	60	4.06	4.05	GxT p≤.30
					Trials, p≤.91			

(Average of 4 7-Point Scales)

1≤Low<4
4≤Medium<5
5≤High≤7

Table 32. ANOVA: Moderator Variable--Job Interdependence

Dependent Variable: Motivation

Treatment

	No.	Q1	Q2	Groups p≤.34
Low	40	3.65	3.54	3.59
Medium	33	3.87	3.64	3.76
High	32	3.81	3.80	3.81
Trials p≤.047	105	3.77	3.65	GxT p≤.34

Control

No.	Q1	Q2	Groups p≤.034
29	3.45	3.52	3.48
16	3.66	3.99	3.83
15	4.05	4.12	4.08
60	3.65	3.80	GxT p≤.52

Trials, p≤.17

Dependent Variable: Organization Identification

Treatment

	No.	Q1	Q2	Groups p≤.61
Low	40	3.15	3.06	3.10
Medium	33	3.15	3.08	3.12
High	33	3.25	3.30	3.28
Trials p≤.53	106	3.18	3.14	GxT p≤.55

Control

No.	Q1	Q2	Groups p≤.088
29	3.16	3.02	3.09
16	3.46	3.56	3.51
15	3.52	3.33	3.42
60	3.33	3.24	GxT p≤.34

Trials, p≤.26

Dependent Variable: Work Innovation

Treatment

	No.	Q1	Q2	Groups p≤.96
Low	40	3.38	3.33	3.35
Medium	33	3.35	3.28	3.31
High	33	3.35	3.25	3.30
Trials p≤.27	106	3.36	3.29	GxT p≤.95

Control

No.	Q1	Q2	Groups p≤.012
29	3.03	2.85	2.94
16	3.42	2.84	3.13
15	3.89	3.63	3.76
60	3.35	3.04	GxT p≤.22

Trials, p≤.0023

Dependent Variable: Job Satisfaction

Treatment

	No.	Q1	Q2	Groups p≤.86
Low	40	3.97	3.93	3.95
Medium	33	4.02	4.04	4.03
High	33	4.00	4.01	4.01
Trials p≤.93	106	3.99	3.99	GxT p≤.90

Control

No.	Q1	Q2	Groups p≤.77
29	4.04	4.00	4.02
16	3.98	4.02	4.00
15	4.18	4.20	4.19
60	4.06	4.05	GxT p≤.87

Trials, p≤.92

Low<100
100≤Medium<400
400≤High

(Product of 4 Scales)

and greater work innovation in the control group. Differences among treatment subgroups are not significant. The data do not support the hypothesis that perceived job interdependence will lessen the effects of MBO on the dependent variables.

Analysis of the change in the interdependence variable between Questionnaire 1 and Questionnaire 2 reveals an organization-wide increase in job interdependence. The researcher has been unable to explain satisfactorily this increase. One speculation is that the job interdependence increase is related to the objectives influence and job influence increase discussed elsewhere in this chapter and may, in some way, be related to the organizational changes referenced in the discussion of the dependent variable innovation. A greater decentralization, or abdication, of responsibilities by the top management of the organization would possibly be reflected in all of the measures mentioned, as well as the higher level emphasis measure which also decreased in both the treatment and control groups.

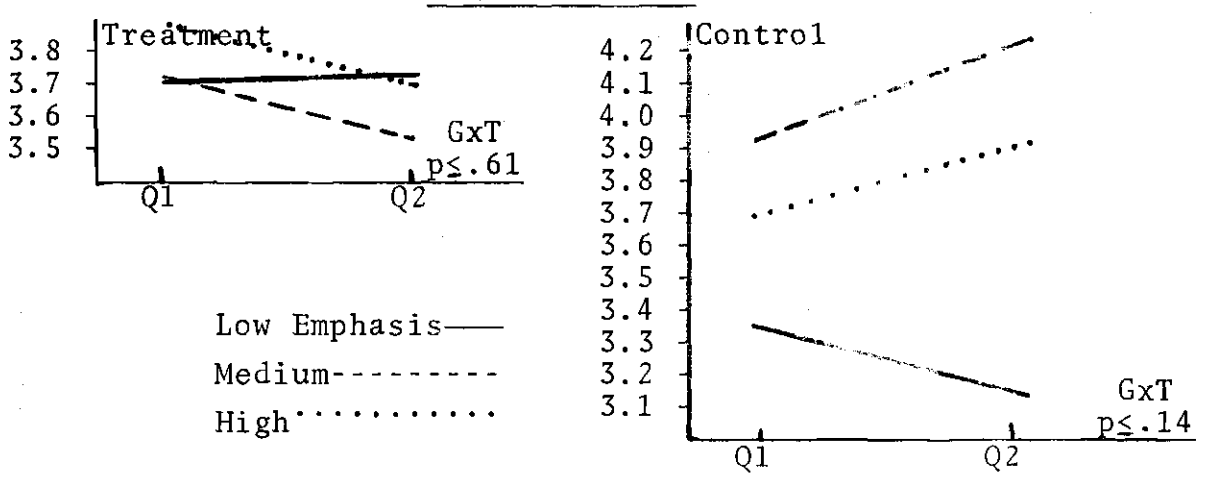
This speculation receives support from Item 2.41, "My department gets a sufficient amount of direction from the County Manager" on which the number of people disagreeing with the statement showed an increase between Questionnaire 1 and Questionnaire 2.

MBO Process-Related Variables

Higher Level Emphasis on Objectives

The data in Table 33 do not support the proposition that changes in the levels of the dependent variables are moderated by perceived emphasis placed on objectives by higher levels of management in the organization, with the exception of motivation. The data provide weak support for the suggestion that low emphasis results in increased motivation. Higher levels of job satisfaction are associated with higher levels of perceived emphasis.

Job Motivation



Work Innovation

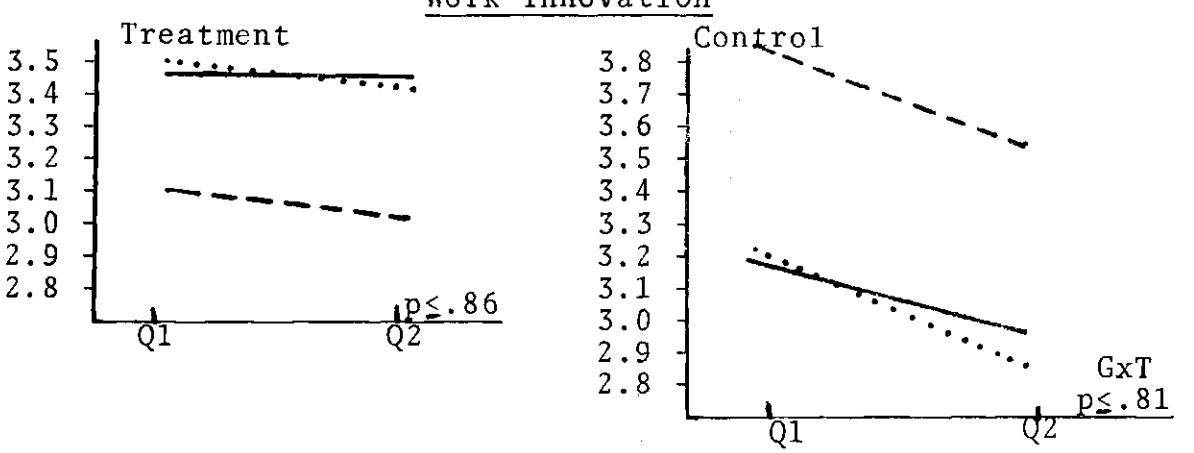


Table 33. ANOVA: Moderator Variable--Higher Levels' Emphasis on Objectives

Dependent Variable: Motivation

	Treatment				Control			
	No.	Q1	Q2	Groups p≤.58	No.	Q1	Q2	Groups p≤.0084
Low	23	3.70	3.73	3.71	15	3.35	3.14	3.25
Medium	35	3.71	3.53	3.62	13	3.92	4.23	4.08
High	47	3.85	3.71	3.78	32	3.69	3.92	3.81
Trials p≤.047	105	3.77	3.65	GxT p≤.61	60	3.65	3.80	GxT p≤.14
					Trials, p≤.16			

Dependent Variable: Organization Identification

	Treatment				Control			
	No.	Q1	Q2	Groups p≤.021	No.	Q1	Q2	Groups p≤.017
Low	24	2.86	2.74	2.80	15	3.00	2.72	2.86
Medium	35	3.16	3.20	3.18	13	3.42	3.32	3.37
High	47	3.37	3.30	3.33	32	3.45	3.45	3.45
Trials p≤.53	106	3.18	3.14	GxT p≤.54	60	3.35	3.24	GxT p≤.31
					Trials, p≤.26			

Dependent Variable: Work Innovation

	Treatment				Control			
	No.	Q1	Q2	Groups p≤.04	No.	Q1	Q2	Groups p≤.07
Low	24	3.46	3.46	3.46	15	3.19	2.99	3.09
Medium	35	3.10	3.01	3.05	13	3.84	3.55	3.69
High	47	3.50	3.42	3.46	32	3.22	2.86	3.04
Trials p≤.27	106	3.36	3.29	GxT p≤.86	60	3.35	3.04	GxT p≤.81
					Trials, p≤.0028			

Dependent Variable: Job Satisfaction

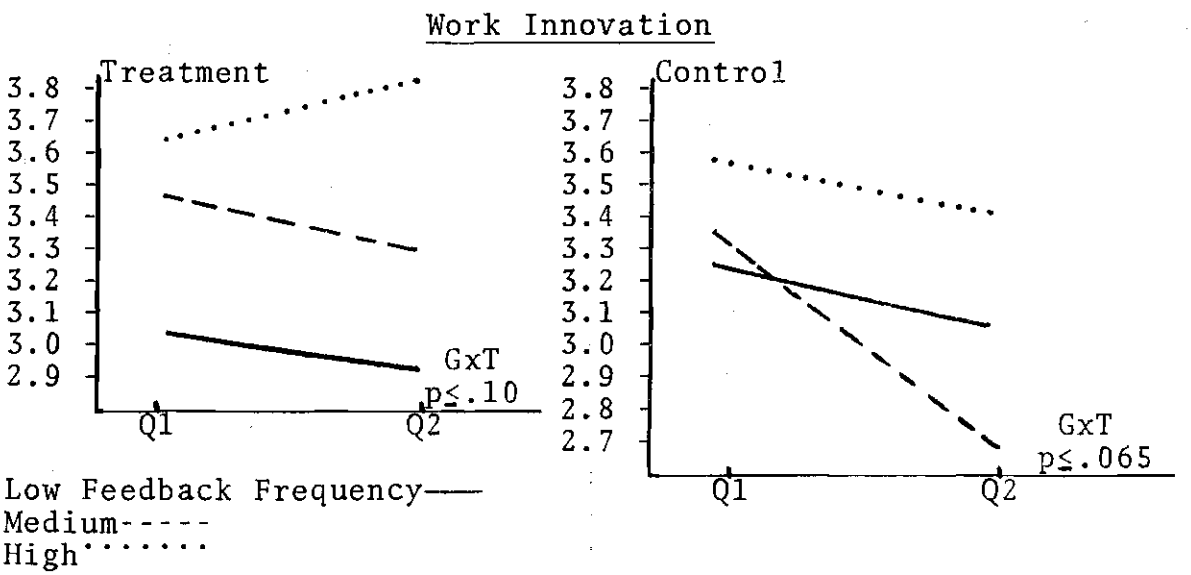
	Treatment				Control			
	No.	Q1	Q2	Groups p≤.0006	No.	Q1	Q2	Groups p≤.006
Low	24	3.75	3.57	3.66	15	3.67	3.46	3.56
Medium	35	3.89	3.84	3.87	13	4.06	4.01	4.03
High	47	4.19	4.31	4.25	32	4.24	4.35	4.30
Trials p≤.93	106	3.99	3.99	GxT p≤.14	60	4.06	4.05	GxT p≤.16
					Trials, p≤.91			

1≤Low<3
3≤Medium<4
4≤High≤7

(Average of 10 7-Point Scales)

Frequency of Feedback

Data obtained after grouping by high, medium, and low feedback frequency is presented in Table 34. Analysis of the data suggests that feedback frequency may be related to the effects of MBO introduction on work innovation. Changes in the other dependent variables do not appear to be related to frequency of feedback. Levels of the other three dependent variables are directionally consistent with feedback frequency in both the treatment and control groups.



Weak support is present for high feedback frequency being related to increased work innovation when MBO is introduced. An open question is whether increased innovation leads to more frequent feedback, or vice versa. Longitudinal data are needed for further development of this hypothesis.

Perceived Performance/Rewards Tie

The data for this variable are given in Table 35.

Table 34. ANOVA: Moderator Variable--Frequency of Feedback

Dependent Variable: Motivation

	Treatment				Control			
	No.	Q1	Q2	Groups p≤.61	No.	Q1	Q2	Groups p≤.15
Low	35	3.68	3.59	3.64	31	3.60	3.65	3.62
Medium	45	3.79	3.63	3.71	16	3.47	3.78	3.62
High	24	3.83	3.79	3.81	13	4.02	4.15	4.09
Trials p≤.07	104	3.76	3.66	GxT p≤.74	60	3.65	3.80	GxT p≤.59
					Trials, p≤.17			

Dependent Variable: Organization Identification

	Treatment				Control			
	No.	Q1	Q2	Groups p≤.0057	No.	Q1	Q2	Groups p≤.24
Low	36	2.94	2.82	2.88	31	3.19	3.10	3.14
Medium	45	3.17	3.17	3.17	16	3.47	3.40	3.44
High	24	3.53	3.53	3.53	13	3.49	3.40	3.44
Trials p≤.51	105	3.17	3.13	GxT p≤.62	60	3.33	3.24	GxT p≤.99
					Trials, p≤.27			

Dependent Variable: Work Innovation

	Treatment				Control			
	No.	Q1	Q2	Groups p≤.0013	No.	Q1	Q2	Groups p≤.34
Low	36	3.03	2.93	2.98	31	3.25	3.07	3.16
Medium	45	3.46	3.30	3.38	16	3.35	2.69	3.02
High	24	3.63	3.81	3.72	13	3.58	3.42	3.50
Trials p≤.31	105	3.35	3.29	GxT p≤.10	60	3.35	3.04	GxT p≤.065
					Trials, p≤.002			

Dependent Variable: Job Satisfaction

	Treatment				Control			
	No.	Q1	Q2	Groups p≤.0001	No.	Q1	Q2	Groups p≤.0008
Low	36	3.61	3.60	3.61	31	3.78	3.65	3.72
Medium	45	4.12	4.08	4.10	16	4.28	4.39	4.34
High	24	4.31	4.37	4.34	13	4.45	4.60	4.52
Trials p≤.92	105	3.99	3.98	GxT p≤.84	60	4.06	4.05	GxT p≤.16
					Trials, p≤.91			

1≤Low<2
2≤Medium<4
4≤High

(Average of 2 7-Point Scales)

Table 35. ANOVA: Moderator Variable--Perceived Performance/ Rewards Tie

Dependent Variable: Motivation

	Treatment				Control			
	No.	Q1	Q2	Groups p≤.60	No.	Q2		Groups p≤.96
Low	38	3.74	3.55	3.64	18	3.67	3.71	3.69
Medium	52	3.76	3.68	3.72	27	3.64	3.82	3.73
High	15	3.87	3.82	3.84	15	3.67	3.84	3.76
Trials p≤.048	105	3.77	3.65	GxT p≤.64	60	3.65	3.80	GxT p≤.84
					Trials, p≤.17			

Dependent Variable: Organization Identification

	Treatment				Control			
	No.	Q1	Q2	Groups p≤.0086	No.	Q1	Q2	Groups p≤.085
Low	39	2.92	2.89	2.90	18	3.06	3.06	3.06
Medium	52	3.31	3.16	3.23	27	3.40	3.14	3.27
High	15	3.45	3.73	3.59	15	3.53	3.64	3.59
Trials p≤.54	106	3.18	3.14	GxT p≤.037	60	3.33	3.24	GxT p≤.14
					Trials, p≤.26			

Dependent Variable: Work Innovation

	Treatment				Control			
	No.	Q1	Q2	Groups p≤.021	No.	Q1	Q2	Groups p≤.26
Low	39	3.14	3.00	3.07	18	3.18	2.90	3.04
Medium	52	3.57	3.47	3.52	27	3.55	3.30	3.42
High	15	3.20	3.41	3.20	15	3.18	2.76	2.97
Trials p≤.27	106	3.36	3.29	GxT p≤.17	60	3.35	3.04	GxT p≤.77
					Trials, p≤.0028			

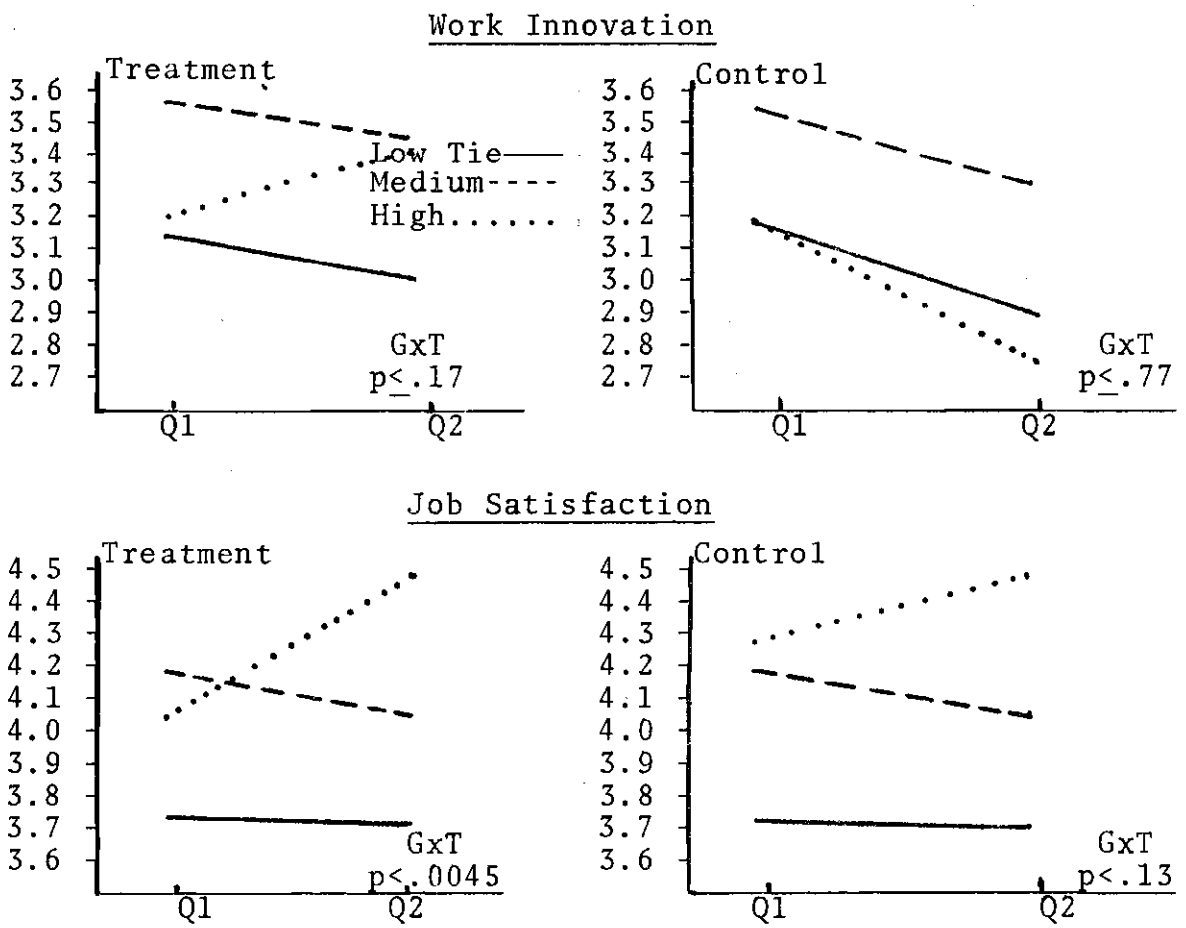
Dependent Variable: Job Satisfaction

	Treatment				Control			
	No.	Q1	Q2	Groups p≤.0032	No.	Q1	Q2	Groups p≤.03
Low	39	3.72	3.71	3.72	18	3.71	3.70	3.70
Medium	52	4.18	4.05	4.12	27	4.18	4.05	4.11
High	15	4.03	4.49	4.26	15	4.27	4.48	4.37
Trials p≤.93	106	3.99	3.99	GxT p≤.0045	60	4.00	4.05	GxT p≤.13
					Trials, p≤.91			

1≤low<3
3≤Medium<6
6≤High

(Q2--Average of 2 7-Point Scales)

Higher levels of perceived tie between performance and rewards track with higher levels of organization identification and job satisfaction in both treatment and control groups. The strongest moderating effect suggested is that the introduction of MBO results in increased innovation by those perceiving a high tie between performance and rewards. This conclusion seems plausible if rewards are motivators.



Objectives Influence

Data obtained by dividing treatment and control groups into three subgroups of people who perceive their influence in setting objectives as low, medium, or high and performing

the groups-by-trials analysis of variance are presented in Table 36. None of the groups-by-trials interactions is significant in either the treatment group or the control group. Low levels of the dependent variables are associated with low levels of the moderator variable, and higher levels of the dependent variables are associated with high levels of the moderator variable.

The data do not support the hypothesis that influence over objectives moderates the effects of the introduction of MBO.

Analysis of the change in the objectives influence measure between Questionnaire 1 and Questionnaire 2 reveals that both treatment and control groups increased significantly on this scale. Both groups also increased significantly on the job influence measure. These changes suggest an organization-wide trend toward greater self-control which may also be related to the changes discussed in the earlier section on dependent variables, with regard to innovation. If there is in fact an organization-wide trend, it could quite possibly be masking the moderating effects of objectives influence on the dependent variables. Longitudinal data is needed to further explore this potential moderator.

It may be noted that the correlational findings regarding objectives influence and the dependent variables are consistent with findings by Likert (1967), Vroom (1960) and others.

Table 36. ANOVA: Moderator Variable--Objectives Influence

Dependent Variable: Motivation

	Treatment				Control			
	No.	Q1	Q2	Groups p≤.058	No.	Q1	Q2	Groups p≤.27
Low	31	3.51	3.47	3.49	16	3.52	3.50	3.51
Medium	27	3.81	3.66	3.74	14	3.54	3.77	3.65
High	47	3.91	3.77	3.84	30	3.78	3.97	3.87
Trials p≤.048	105	3.77	3.65	GxT p≤.71	60	3.65	3.80	GxT p≤.65
					Trials, p≤.17			

Dependent Variable: Organization Identification

	Treatment				Control			
	No.	Q1	Q2	Groups p≤.23	No.	Q1	Q2	Groups p≤.019
Low	32	2.96	2.97	2.97	16	2.97	2.87	2.92
Medium	27	3.37	3.22	3.29	14	3.27	3.21	3.24
High	47	3.23	3.21	3.22	30	3.54	3.46	3.50
Trials p≤.53	106	3.18	3.14	GxT p≤.53	60	3.33	3.24	GxT p≤.98
					Trials, p≤.27			

Dependent Variable: Work Innovation

	Treatment				Control			
	No.	Q1	Q2	Groups p≤.000	No.	Q1	Q2	Groups p≤.29
Low	32	2.77	2.72	2.74	16	3.25	2.65	2.95
Medium	27	3.40	3.22	3.31	14	3.16	3.05	3.10
High	47	3.73	3.72	3.73	30	3.48	3.25	3.37
Trials p≤.27	106	3.36	3.29	GxT p≤.52	60	3.35	3.04	GxT p≤.16
					Trials, p≤.0022			

Dependent Variable: Job Satisfaction

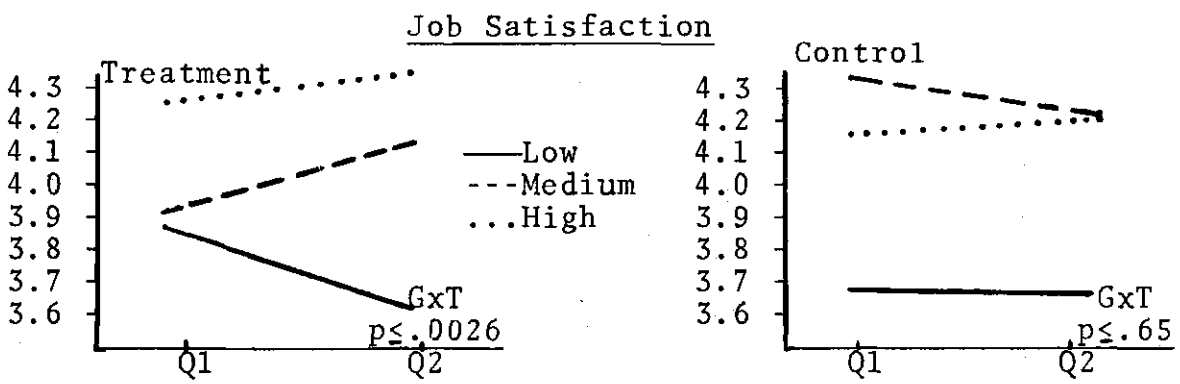
	Treatment				Control			
	No.	Q1	Q2	Controls p≤.0001	No.	Q1	Q2	Groups p≤.0001
Low	32	3.63	3.56	3.59	16	3.54	3.54	3.54
Medium	27	3.97	3.96	3.96	14	3.87	3.72	3.79
High	47	4.25	4.30	4.27	30	4.43	4.48	4.45
Trials p≤.93	106	3.99	3.99	GxT p≤.72	60	4.06	4.05	GxT p≤.50
					Trials, p≤.91			

1≤Low<4
4≤Medium<5
5≤High≤7

(Q2--Average of 2 7-Point Scales)

Clarity of Objectives

The data in Table 37 suggest that clarity of objectives moderates the effects of MBO on possibly two of the dependent variables: job satisfaction and innovation. Employees who perceive their objectives as having medium or high clarity show an increase in job satisfaction (with the greatest increase occurring for those with medium clarity) following introduction of MBO, while employees having unclear objectives report decreased job satisfaction.



It is of interest to note that in both treatment and control groups, those who report clearer objectives also report higher levels of job satisfaction, job motivation, and especially in the treatment group, organizational identification.

Although neither treatment group interaction of groups-by-trials nor control group interaction is significant, a graph of the changes in work innovation between Questionnaire 1 and Questionnaire 2 suggests that objectives clarity may also moderate the effects of MBO on this variable. Those who

Table 37. ANOVA: Moderator Variable--Clarity of Objectives

Dependent Variable: Motivation

	Treatment				Control			
	No.	Q1	Q2	Groups p≤.05	No.	Q1	Q2	Groups p≤.0010
Low	42	3.57	3.48	3.53	16	3.00	3.41	3.20
Medium	33	3.91	3.82	3.86	21	4.11	4.09	4.10
High	30	3.89	3.72	3.80	22	3.76	3.84	3.80
Trials p≤.05	105	3.77	3.65	GxT p≤.83	59	3.68	3.81	GxT p≤.26
					Trials, p≤.19			

Dependent Variable: Organization Identification

	Treatment				Control			
	No.	Q1	Q2	Groups p≤.068	No.	Q1	Q2	Groups p≤.53
Low	42	3.01	2.95	2.98	16	3.22	3.01	3.12
Medium	34	3.23	3.12	3.18	21	3.33	3.44	3.38
High	30	3.37	3.44	3.41	22	3.42	3.28	3.35
Trials p≤.53	106	3.18	3.14	GxT p≤.51	59	3.34	3.26	GxT p≤.21
					Trials, p≤.65			

Dependent Variable: Work Innovation

	Treatment				Control			
	No.	Q1	Q2	Groups p≤.60	No.	Q1	Q2	Groups p≤.93
Low	42	3.27	3.13	3.20	16	3.30	3.20	3.25
Medium	34	3.36	3.44	3.40	21	3.36	3.15	3.26
High	30	3.49	3.35	3.42	22	3.42	2.90	3.16
Trials p≤.27	106	3.36	3.29	GxT p≤.26	59	3.37	3.07	GxT p≤.17
					Trials, p≤.0032			

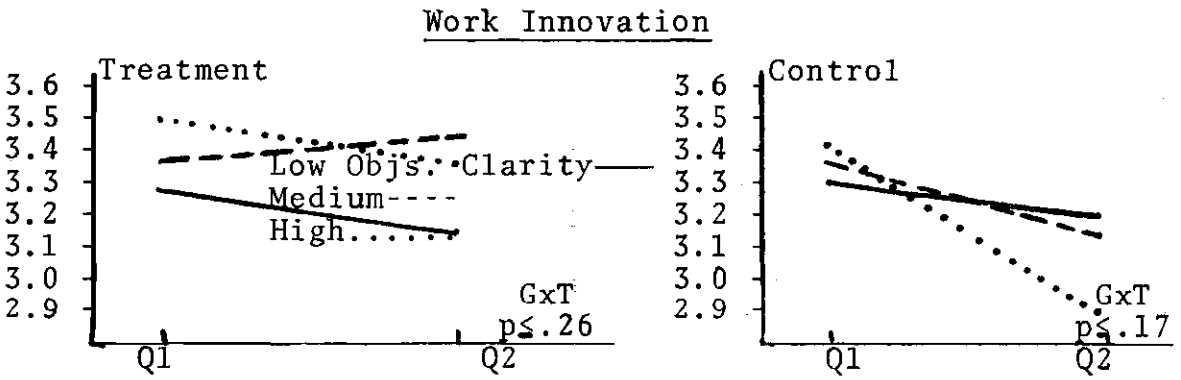
Dependent Variable: Job Satisfaction

	Treatment				Control			
	No.	Q1	Q2	Groups p≤.0018	No.	Q1	Q2	Groups p≤.0232
Low	42	3.87	3.62	3.75	16	3.68	3.68	3.68
Medium	34	3.91	4.12	4.02	21	4.33	4.24	4.28
High	30	4.26	4.34	4.30	22	4.16	4.23	4.20
Trials p≤.93	106	3.99	3.99	GxT p≤.0026	59	4.09	4.08	GxT p≤.65
					Trials, p≤.90			

1≤Low<5
5≤Medium<6
6≤High≤7

(Average of 4 7-Point Scales)

report medium clarity show increased innovation, while others indicate the organization-wide decrease in innovation. Those in the treatment group reporting high clarity show a smaller decrease in innovation than those in the control group who report high objectives clarity.



The finding that individuals having clearer goals report increased job satisfaction following the introduction of MBO is consistent with findings of Locke (1969,1970). The weak support for clarity as a moderator of effect on innovation in which people reporting medium clarity also report enhanced innovation following the introduction of MBO suggests that objectives which are too clear may stiffle innovation, as do objectives which are not clear enough. To the extent this suggestion is valid it implies that some flexibility should be left in objectives statements if innovation is desired.

Difficulty of Objectives

Grouping by low, medium, and high objectives difficulty as reported on Questionnaire 2 yields the data presented in Table 38. Possibly the most interesting aspect of this data

Table 38. ANOVA: Moderator Variable--Difficulty of Objectives

Dependent Variable: Motivation

	Treatment				Control			
	No.	Q1	Q2	Groups p≤.17	No.	Q1	Q2	Groups p≤.34
Low	29	3.73	3.62	3.68	14	3.43	3.70	3.56
Medium	42	3.69	3.51	3.60	24	3.53	3.77	3.65
High	34	3.90	3.86	3.88	22	3.93	3.89	3.91
Trials p≤.048	105	3.77	3.65	GxT p≤.58	60	3.65	3.80	GxT p≤.61
					Trials, p≤.17			

Dependent Variable: Organization Identification

	Treatment				Control			
	No.	Q1	Q1	Groups p≤.11	No.	Q1	Q2	Groups p≤.95
Low	29	3.22	3.01	3.12	14	3.32	3.15	3.24
Medium	43	3.00	3.03	3.02	24	3.33	3.26	3.29
High	34	3.38	3.39	3.38	22	3.33	3.28	3.31
Trials p≤.53	106	3.18	3.14	GxT p≤.17	60	3.33	3.24	GxT p≤.84
					Trials, p≤.27			

Dependent Variable: Work Innovation

	Treatment				Control			
	No.	Q1	Q2	Groups p≤.12	No.	Q1	Q2	Groups p≤.073
Low	29	3.10	3.09	3.09	14	2.85	2.62	2.74
Medium	43	3.42	3.26	3.34	24	3.47	3.05	3.26
High	34	3.50	3.50	3.50	22	3.53	3.30	3.42
Trials p≤.27	106	3.36	3.29	GxT p≤.53	106	3.35	3.04	GxT p≤.66
					Trials, p≤.0027			

Dependent Variable: Job Satisfaction

	Treatment				Control			
	No.	Q1	Q2	Groups p≤.068	No.	Q1	Q2	Groups p≤.72
Low	29	4.02	3.95	3.99	14	3.84	4.00	3.92
Medium	43	3.89	3.78	3.84	24	4.11	4.03	4.07
High	34	4.10	4.27	4.18	22	4.15	4.12	4.13
Trials p≤.93	106	3.99	3.99	GxT p≤.10	60	4.06	4.05	GxT p≤.58
					Trials, p≤.91			

1≤Low<4
4≤Medium<5
5≤High≤7

(Average of 2 7-pt Scales)

is that except for work innovation, the levels of the dependent variables do not show the significant differences by moderator levels, and in the same direction as the moderator variable levels, that are present with a number of the other moderators.

In both the treatment and control groups, however, those people who report higher levels of objectives difficulty also report higher levels of innovation. It may be that more difficult objectives do encourage more innovation.

Summary of Findings

The reader is again reminded that the data presented in this chapter reflect only the short term effects of the introduction of MBO; long term effects may be quite different. The major hypotheses were not supported, with the exception of weak support for the hypothesis that the introduction of MBO results in increased work innovation. Analysis of moderating variables, however, produced both interesting and significant results, particularly with regard to individual differences. Strong support was provided for the notion that individual differences should be expected to moderate significantly the effects of MBO. Specifically, it was found that individuals scoring internal on Rotter's I-E Scale reacted favorably on all four dependent variables, while externals reacted negatively, to the introduction of MBO.

Other findings concerning individual difference moderators included support for the following suggestions regarding the short term attitudinal effects of the introduction of MBO:

1. Job satisfaction of college degree people increases following introduction of MBO; job satisfaction of advanced degree people decreases.

2. Short service people show a greater decrease in job satisfaction following MBO introduction than do medium or long service people.

3. Individuals whose performance is rated high by their department head show a decrease in job satisfaction following the treatment; people rated medium show an increase.

4. People low on acceptance of job change react more positively to introduction of MBO than do people scoring medium or high on the variable.

5. Following introduction of MBO supervisors report an increase in motivation and innovation, non-supervisors report a decrease.

The strongest finding involving the organizational difference measures was for the Likert organizational profile. People who perceived their organization as high on the Likert scale reported decreased levels on the dependent variables following introduction of MBO. Conversely, people initially low on the Likert scale showed improvements on the dependent variables. Job influence and job interdependence showed no moderating effects.

Findings involving the MBO process-related moderators included the following:

1. Lower levels of perceived emphasis by higher supervision results in increased motivation

following the introduction of MBO.

2. High feedback frequency results in increased work innovation following the treatment.

3. Innovation is greater following introduction of MBO for individuals who perceive a strong tie between performance on objectives and rewards.

4. Individuals with clear objectives report an increased level of job satisfaction following the treatment, while people with unclear objectives show decreased satisfaction.

5. Increased innovation following MBO introduction is reported by individuals with medium clarity objectives.

6. Neither influence on objectives nor difficulty of objectives was found to moderate the effects of the treatment on the dependent variables.

In addition to the findings involving the moderating effects of the 15 moderator variables, some interesting correlational results were found during secondary analysis of the data. Secondary findings include:

1. Higher educated people are more innovative.

2. Job performance ratings are consistent with self-report levels on job motivation and job satisfaction.

3. A high perceived tie between performance and rewards is associated with high levels of organizational identification and job satisfaction.

4. Perceived higher level emphasis is associated with higher reported job satisfaction.

5. Feedback frequency correlates with job motivation, organization identification, and job satisfaction.

6. More difficult objectives are associated with high levels of innovation.

7. Clearer objectives correlate with higher levels of job satisfaction, job motivation, and organization

identification.

8. High acceptance of job change is associated with high levels of job motivation, organization identification, and job satisfaction.

9. Job influence correlates with all four dependent variables, as does objectives influence.

10. Supervisors score higher on all dependent variables than do non-supervisors.

In addition to the findings summarized above, a pattern of results emerged which suggests that during the research period an organization-wide trend emerged in which innovation decreased, perceived objectives influence and job influence increased, perceived direction from top management decreased, as did higher level emphasis on objectives, and also the perceived tie between performance and rewards. Furthermore, job interdependence increased significantly, suggesting that lower levels were assuming more of the coordinating functions which had previously been performed by higher levels of management. It is believed by the researcher that the above changes relate directly to movement of key personnel and resultant changes in management policies and styles. If such trends do in fact exist, they partially explain some shifts in the dependent variables, as well as some of the moderating relationships which were found, and others which were expected but not found. If the above analysis is correct, it certainly provides additional support for the need for control groups in research of this type.

Chapter VI presents conclusions drawn from this

research, implications for MBO implementation, and the need for further research.

Discussion of Findings

The earlier sections of this chapter have described the data analysis and findings based on the data. In this section the researcher attempts to interrelate the various individual findings.

The approach taken in interrelating the findings is as follows:

(a) Moderating relationships are analyzed by type--individual difference, organizational differences, and process-related variables.

(b) Similarities in moderating effects are identified.

(c) A comparison of change effects with associative, static effects is made.

(d) Observations of organizational behavior made in the local government by the researcher are related to the empirical data findings in further explaining the short term effects of MBO.

The reader should recognize that the discussion which follows incorporates not only the data based findings summarized in the previous section, but also the much more subjectively gained impressions of the researcher. As such, considerable speculation is included. And, as has been emphasized earlier,

the interpretations made here relate only to the short-term effects of the introduction of MBO.

Reference to the findings summarized in the previous section suggests an interesting result: Only three of the moderating variables classed as individual difference measures moderate the short term effects of MBO on more than one dependent variable: internal-external control belief, acceptance of job change, and organizational level. One organizational difference variable moderates the effects on more than one dependent variable: Likert's organizational profile. None of the process-related variables moderate the effects on more than two dependent variables. But, with the exception of organizational level, the individual difference and organizational difference measures which moderate the short term effects on any dependent variable moderate the effects on all of the dependent variables.

Furthermore, two of the difference variables moderate in an unexpected direction: persons low on acceptance of job change, and persons low on perception of organizational profile levels, both react favorably in the short term to the introduction of MBO. Referring back to Chapter IV, the scale on acceptance of job change reflects both individual experience with job changes and the individual's perception of changes which affected others. It was noted in connection with the acceptance of job change measure that at TVA acceptance of change scores were strongly related to employee

participation in work decision making. That is, it may be more appropriate to include acceptance of job change as an organizational difference moderating variable. If this is done the findings relating to the difference variables might be stated as follow:

1. Individual difference measures which demonstrate a moderating effect on the dependent variables moderate the effects on all dependent variables. Individuals high on internal control belief react positively to the introduction of MBO in the short term, while individuals high on external control belief react negatively. That is, individual differences moderate the effects of MBO introduction on a range of dependent variables.

2. Organizational difference variables likewise moderate the effects of MBO on a range of dependent variables. Specifically, individuals who perceive deficiencies in their organization as reflected by acceptance of change and the profile of organizational characteristics react favorably in the short term to the introduction of MBO, while those who perceive their organization's acceptance of job changes and profile of characteristics to be high react negatively to introduction of MBO.

Two empirical studies which were reviewed in Chapter I suggested that individual differences were important in moderating various MBO effects (Carroll and Tosi, 1970 and Chesser, 1971). Those studies used Ghiselli dimensions of

individual difference, while the present study utilized Rotter's Internal-External Control Belief measure. Carroll and Tosi (1969) suggested organizational differences as a moderator, but organizational differences based on different functional aspects of the organization.

Use of Likert's Profile of Organizational Characteristics in this study resulted in the finding of a different kind of organizational difference moderating effect: namely, perceived organizational deficiencies (as defined by Likert). This suggestion is reinforced by comments made to the researcher such as, "Things are so bad around here now that any change will be for the better." Statements of this type do, however, suggest that the positive short term effects on the dependent variable may be as much due to major change per se as to MBO specifically. This does not change the view that MBO, in the short term, may favorably alter the attitudes of people who perceive their organizations as "deficient."

As a group the process-related moderator variables did not show the broad effects on all of the dependent variables as did the individual and organizational difference measures discussed above. The performance/rewards tie variable may suggest very weakly a broad effect, with a perception of a high tie between performance and rewards being associated with more positive reactions on the dependent variables. Otherwise, the process-related moderators seemed to be more specific as to how dependent variables were affected.

Specifically, less emphasis by higher levels was associated with more positive changes in motivation; increased innovation was associated with feedback frequency, performance/rewards tie and medium objectives clarity; and increased satisfaction accompanied higher perceived performance/rewards ties and higher levels of objectives clarity.

With respect to both difference moderators and process moderators, it should be restated that higher levels of the dependent variables are, on a static basis, associated with higher levels of performance, organizational level, acceptance of job change, Likert Profile, job influence, emphasis, feedback, performance/reward ties, objectives influence, and clarity of objectives. It is quite possible that over the long term the perception of organizational deficiencies will change in such a way that those persons who react favorably in the short term to MBO will also raise their reported levels of acceptance of job change, organizational profile, etc. A full understanding of the dynamics of organizational change requires periodic measures of attitudes over a long period of time. The present study provides two such measurement points and establishes a good base for longitudinal research.

CHAPTER VI

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

Research Methodology

This research has demonstrated the feasibility of using a quasi-experimental design in measuring the short-term effects of a major organizational change on four dependent attitudinal variables. Several problems were encountered which might be expected in any similar organizational research: the researcher was unable to control specifically the experimental treatment (introduction of MBO), groups originally designated as control had to be changed to treatment groups to accommodate the desires of the host organization, and some non-equivalence of treatment and control groups emerged. Background differences between the treatment group and the control group were obtained as follow: (a) average education in the treatment group was a college degree, while control group members averaged slightly less, (b) treatment group members averaged 2-3 years in their present job, control group members averaged 3-4 years, and (c) on the average the treatment group members had been in the local government 3-4 years, control group members had been employed 4-5 years. More important than the difference in education and tenure

was the pretreatment equivalence of the treatment and control group as measured by the dependent variable scales (see Table 22).

These problems were successfully dealt with in the analysis of the research data. Specifically, intervening variables which served to measure the levels of the effects of the heterogeneous treatment on key measures of objectives, process, etc., were identified and measured.

Various forces external to the MBO treatment were detected by use of the control groups. Interpretation of data was greatly enhanced through use of the control group; and the resultant findings could be reported with increased confidence.

Likert (1967) has stressed the need for "human resources accounting." Likert presents an impressive case for the importance to an organization of recognizing the value of its human assets. Reference to the popular news media reveals trends toward greater emphasis on job satisfaction per se. The present research demonstrates one method of measuring the attitudinal effects on employees of major organizational changes.

It is suggested that it is seldom feasible to maintain rigid adherence to experimental designs in this type of organizational research. Flexibility is a necessary feature of experimental designs used in ongoing organizations. The approaches suggested by Campbell and Stanley (1966), one of

which has been utilized in this research, offer great possibilities for providing organizations with statistically sound measures of the effects of change. The demonstration that such experimental approaches are both feasible and useful in obtaining measures of attitudinal effects of change is one of the strong findings of the research reported here.

The extensive feedback of research data to the experimental departments provides them the opportunity for evaluating the attitudinal effects of organizational changes which have been introduced during the period of research. In most instances the data present few surprises to the heads of the involved departments. The primary value of the data lies probably in objective confirmation of management's subjectively-gained impressions and in a quantitative assessment of the extent to which the various attitudes exist among the members of the organization.

The Research Instrument

A multi-measure questionnaire has been developed, tested, and utilized in the research. Overall test-retest and internal reliabilities have been determined and reported. The major limitations of the instrument are its length and dependence upon objectives terminology. Strong points are good overall reliabilities, satisfactory external consistency, and good cross validity. Because of the strategy of employing existing measures where possible, many of the scales have been utilized in earlier research with proven results.

The instrument has allowed adequate measurement of all of the variables which had been identified for study. A valuable data bank has been created as a side benefit of the MBO model testing. This data base will be of great value in future research in the host organization.

The MBO Model

Based upon a vast amount of normative literature, case studies, and the minimal available statistically based empirical research, a comprehensive model for testing the short term effects of MBO on attitudes has been developed. Moderating relationships were hypothesized from the MBO and other literature, such as goal setting, motivation, internal-external control beliefs, and job satisfaction. Strong findings as to the effects of MBO on the major dependent variables were not possible due to the heterogeneity of the treatment. The findings which were tested, however, did not support many of the impressive claims for the effects of MBO on employee attitudes, at least not in the short term. It must be reemphasized that the long term effects may be quite different, either for better or for worse.

The strongest findings have to do with the moderating effects of individual, organizational, and MBO process-related difference variables. Especially significant is the additional support provided for Chesser's (1971) finding that individual differences (internal-external control beliefs in this research) can strongly moderate the short-

term effects of MBO.

Other results in the area of moderating variables lend themselves mainly to generating hypotheses, rather than hypothesis testing. Correlational findings resulting from the secondary data analysis provide field study results which add to available information relative to organization behavior.

Methods of Analysis

A methodology has been devised for the testing of data obtained from the non-equivalent control group design. While not rigorously defended, satisfactory analysis of data was obtained and use of the groups-by-trials analysis of variance was demonstrated.

Recommendations for Future Research

Longitudinal Studies in the Host Organization

An excellent base for longitudinal research on the effects of MBO has been established. As the local government is able to develop and refine performance measures which are comparable across organizational divisions, this important variable can be incorporated in the research. Individual performance measures in the form of performance ratings have already been obtained for one point in time. As time passes and actual changes in individual performance can be observed, these ratings will permit the inclusion of individual performance measures in the model.

As reviewed in Chapter I, the normative literature cautions that considerable time, variously estimated at two to five years, is required for full implementation and benefits of MBO to be felt. Longitudinal studies proposed for the research organization offer promise of additional significant findings. Coupled with the short-term effects reported in this research, longitudinal data to be obtained in subsequent research will add considerably to the understanding of the effects of MBO.

More Extensive Data Analysis

The scope of the present research precluded much more than a basic primary analysis of the research data. Additional time will permit considerable refinement of the data analysis, including examination of the effects of various combinations of variables as moderators, and perhaps full-scale multi-variate analysis.

Development of the whole area of appropriate statistical methods for use in evaluation of experimental results is much needed for more effective use of the quasi-experimental designs. This need suggests sophisticated research by competent statisticians.

Comparative Studies

The present research in a single, multi-department, not-for-profit organization does not allow much generalization of results. Application of the research model to other non-profit organizations and especially in profit-making

organizations in which productivity, profit, and other performance measures already exist and can be utilized in evaluation of the effects of MBO on performance, would provide the opportunity for much stronger findings.

Implications for Managers

As stated earlier, the testing of hypotheses concerning variables identified as potential moderators of MBO was largely exploratory in nature. The treatment employed in the experimental design was less specific than had been intended, and, overall, the short-term attitudinal changes measured were not great.

With these qualifications and reemphasis of the fact that the research was directed at short-term attitudinal effects, this section suggests several areas for consideration by managers involved in, or contemplating the introduction of MBO. The recommendations made in this section are based on the research findings, some of which were stronger than others.

This research has provided support for the view that the effects of MBO are not likely to be dramatic over the short term. Whether or not the long-term attitudinal effects of MBO are positive is still to be determined. Longitudinal studies are necessary to provide the answers to the question of long-term effects.

The view that MBO has different effects on different individuals in different situations, at least in the short

term, has been reinforced. Management considering the implementation of MBO should recognize that MBO may be counterproductive in the short term in some organizations and for some people. Those people who are internally-oriented may be expected to react positively to a system of management oriented toward objectives and results. Externally-oriented people may react in quite the opposite direction, at least in the short term. The complexity of MBO as an interactive system should be recognized. Many different factors are involved and mixed results from the use of MBO may be expected.

Organizations already high on the Likert dimensions may decrease on those dimensions when MBO is introduced. On the other hand, organizations low on the measure may move in a positive direction. It may very well be that MBO in the short term is a "System 3" type of management.

Managers who implement MBO in their organization might heed the suggestions implied in the finding relating to the process-related moderating variables concerning short term effects of MBO. Self-control by individuals as opposed to higher level's emphasis may result in increased job motivation. Feedback frequency is probably related to the amount of innovation by members of the organization. If innovation is desired, rewards should be tied to performance in meeting objectives. Clear objectives are important for job satisfaction, job motivation, and organization identification, as are influence over objectives and job influence.

Finally, it is probably the case that supervisors as a group will, in the short term at least, react more favorably to MBO than will non-supervisors. Most of the claims for MBO are based on studies involving only management people. To the extent that the short term attitudes of non-managers are felt to be important, MBO may not be the best approach to follow.

In summary this research may be of greatest importance to management in that it suggests that the short term effects of MBO will be different for different individuals in different situations. The research has not, however, incorporated the effects of MBO on job performance, nor has it provided information on the long term effects of MBO. Further study is necessary for determining the likely effects of MBO on performance and long term effects on attitudes. Until such knowledge is obtained, management must still assume that MBO may or may not have positive long term effects on performance and employee attitudes.

Final Comments

This research has utilized MBO as a system, albeit complex, for integrating a number of variables of interest in the area of organization behavior. Further, the feasibility of experimental approaches for measuring the short term attitudinal effects of organization change has been demonstrated.

Overall, more questions have been raised than have been answered. Longitudinal studies are needed. Statistically-based data on the long term effects of MBO on performance and attitudes are a must in order to weigh the short and long term attitudinal effects against the performance effects. Still, the addition to the limited amount of statistically-based research provided by this study is believed to be of value, as is the research instrument which has been developed and tested.

APPENDICES

APPENDIX A

QUESTIONNAIRE 1

Sample

Serial No. ____

Questionnaire 1

Cover Sheet Sample

_____ GOVERNMENT

ORGANIZATION STUDY

Confidential

Introduction

This questionnaire is part of a research study of organization performance. The aim of this part of the study is to find out how individuals in the organization see various aspects of their jobs and their organization's behavior.

This is not a study of individual persons or of individual groups, but of the total organization. The questionnaire is numbered so that respondents can be placed in the organization structure and in order that the researcher can follow up with those individuals who fail to respond initially.

On the following pages you will find several different kinds of questions. Specific instructions will be given at the beginning of each part of the questionnaire.

There are no "trick" questions. All that is asked is that you try to answer as honestly and candidly as possible. All answers will be treated in strict confidence (see note on next page).

There is no such thing as a perfect questionnaire, and you may have a little trouble seeing exactly what some questions mean, or how they apply to you. However, PLEASE ANSWER EVERY QUESTION -- even a "best guess" answer is better than no answer at all.

The results of this study will be meaningful only to the extent that your answers are completely frank. To help safeguard the confidentiality of your data, please return the completed questionnaire directly to me in Room 400.

Many thanks for your cooperation in this study.

Leo Parrish

Leo Parrish

IMPORTANT NOTE: CONFIDENTIALITY OF THE STUDY.

Your cooperation in this study is requested on the assurance that your responses will be treated in the strictest confidence. Confidentiality will be maintained as follows:

I. Completed questionnaires and interview notes will be kept securely by the researcher and will not be made available to any other individual in _____ Government at any time.

II. All data will be aggregated and coded so as not to be traceable to a particular respondent in any way.

III. The master list identifying respondents by the serial number of their questionnaires will be kept securely during the study, and will be destroyed on completion of the study.

IV. Sample sizes will be large enough to ensure anonymity of particular responses.

In short, careful measures are taken to ensure that confidentiality will be preserved, so that you can feel free to answer all questions as frankly as possible. The value of the study depends on your frankness.

Background Information

To help with the statistical analysis of the data, the following information is needed:

(Check one for each question)

1. Is your present job: _____ Supervisory
   _____ Non-supervisory

2. Time in present position:

   _____ 0 - 1/2 year
   _____ 1/2 - 1 year
   _____ 1 - 2 years
   _____ 2 - 3 years
   _____ 3 - 4 years
   _____ 4 - 5 years
   _____ 5 - 10 years
   _____ 10 - 15 years
   _____ More than 15 years

3. Total time with _____:

   _____ 0 - 1/2 year
   _____ 1/2 - 1 year
   _____ 1 - 2 years
   _____ 2 - 3 years
   _____ 3 - 4 years
   _____ 4 - 5 years
   _____ 5 - 10 years
   _____ 10 - 15 years
   _____ More than 15 years

4. Education:

   _____ Some High School
   _____ High School Diploma
   _____ Some College
   _____ Business College
   _____ College Degree
   _____ Some Graduate Work
   _____ Master's Degree
   _____ Ph. D. Degree

Organizational Characteristics

On the next page there are listed 18 organizational variables. With each is a scale indicating varying amounts or degrees of each variable. Please place an "X" at the point on each scale which, in your experience, describes your department at the present time.

As with other parts of the questionnaire, it is important that each individual answer each question as thoughtfully and frankly as possible. Please mark every scale.

Page 4 of the Questionnaire consisted of Items 5-22. Likert's short form "Profile of Organizational Characteristics" (copyright (c), 1967, by McGraw-Hill, Inc., distributed by the Foundation for Research on Human Behavior, Post Office Box 1248, Ann Arbor, Michigan, 48106) was used to obtain a measure of the individual's perception of his organization's profile.

Performance and Self-Improvement Objectives

Concern with objectives in our day-to-day living is very much a part of our normal activity. For example, we may try to keep our car maintained so that it can be started even on cold mornings. If we get through a cold winter without its failing to start even on the coldest day, we know we have met this trivial objective.

Thus, it seems that an employee in a work situation would have at least some knowledge of where he is going in terms of his job (his job performance objectives), including a way to know when he has reached his objectives.

In addition to job performance objectives, the employee probably also has some number of objectives for his own self-improvement or self-development, and a way of knowing when the objectives have been achieved. These objectives might include such things as plans for increasing his knowledge or capabilities in order to become ready for promotion or ready to assume greater responsibilities.

Objectives may be formally agreed upon with other members of the organization, for example, the boss, or they may be known only to the individual. The individual may not even be conscious of the existence of objectives. These may be very clearly spelled out for all parts of the job and all aspects of the individual's self-improvement, or they may be quite vague, and may cover only some parts of the job or the individual's personal growth needs.

In answering the questions on the following pages, please think about those objectives which actually exist for your job or for your own self-improvement. Your opinion of the present situation is the correct response to each question. You are asked to express your opinion by circling one number on a scale which will look similar to this:

(Very Easy) 1 2 3 4 5 6 7 (Very Difficult)

If you agree with the descriptive term on the left end of the scale, you would circle the number "1". If you think "just a little more than that" you would circle "2", and so on. If you agree with the descriptive term on the right end of the scale, you would circle the number "7".

Please circle the number on the scale which best describes your response to the question which is asked. For each scale circle only one number. Please do not omit any scales.

23. How many of the responsibilities of your job are covered by job performance objectives?

(None)			(About Half)			(All)
1	2	3	4	5	6	7

24. How many of your self-improvement needs are covered by self-improvement objectives?

(None)			(About Half)			(All)
1	2	3	4	5	6	7

25. What, in your opinion, is the level of difficulty of your job performance objectives?

(Very Easy)			(Moderately difficult)			(Very difficult)
1	2	3	4	5	6	7

26. What should be the level of difficulty of your job performance objectives?

(Very Easy)			(Moderately difficult)			(Very difficult)
1	2	3	4	5	6	7

27. What, in your opinion, is the level of difficulty of your self-improvement objectives?

(Very Easy)			(Moderately difficult)			(Very difficult)
1	2	3	4	5	6	7

28. How well do you understand your job performance objectives?

(Not at all)			(Moderately well)			(Very well)
1	2	3	4	5	6	7

29. How well should you be able to understand your job performance objectives?

(Not at all)			(Moderately well)			(Very well)
1	2	3	4	5	6	7

30. How well do you understand your self-improvement objectives?

(Not at all)			(Moderately well)			(Very well)
1	2	3	4	5	6	7

31. How consistent with the most serious and pressing problems facing your department are your job performance objectives?

(Not at all consistent)			(Moderately consistent)			(Completely consistent)
1	2	3	4	5	6	7

32. How consistent with your own personal development needs are your self-improvement objectives?

(Not at all consistent)			(Moderately consistent)			(Completely consistent)
1	2	3	4	5	6	7

33. How much emphasis does your boss place on your attaining your job performance objectives?

(None)			(A moderate amount)			(A great deal)
1	2	3	4	5	6	7

34. How much emphasis does your boss place on your attaining your self-improvement objectives?

(None)			(A moderate amount)			(A great deal)
1	2	3	4	5	6	7

35. How much emphasis do people at higher levels than your boss place on your attaining your job performance objectives?

(None)			(A moderate amount)			(A great deal)
1	2	3	4	5	6	7

36. How much emphasis do people at higher levels than your boss place on your attaining your self-improvement objectives?

(None)			(A moderate amount)			(A great deal)
1	2	3	4	5	6	7

37. How do you feel about the number of job performance objectives which you have?

(Too few)			(About right)			(Too many)
1	2	3	4	5	6	7

38. How much influence did you have in the setting of your job performance objectives?

(None)			(A moderate amount)			(A great deal)
1	2	3	4	5	6	7

39. How much influence should you have in the setting of your job performance objectives?

(None)			(A moderate amount)			(A great deal)
1	2	3	4	5	6	7

40. How much influence did you have in the setting of your self-improvement objectives?

(None)			(A moderate amount)			(A great deal)
1	2	3	4	5	6	7

41. How much training have you received in how to set objectives?

(None)			(A moderate amount)			(A great deal)
1	2	3	4	5	6	7

42. How do the present levels of your job performance objectives compare with levels of your past job performance?

(Objectives are much lower)			(About the same)			(Objectives are much higher)
1	2	3	4	5	6	7

43. How should the present levels of job performance objectives compare with levels of your past job performance?

(Objectives should be much lower)			(About the same)			(Objectives should be much higher)
1	2	3	4	5	6	7

44. How often are you given feedback on your progress on your job performance objectives?

7 - several times a week
6 - about once a week
5 - several times a month
4 - about once a month
3 - once every few months
2 - about once a year
1 - very rarely or never

45. How often are you given feedback on your progress on your self-improvement objectives?

7 - several times a week
6 - about once a week
5 - several times a month
4 - about once a month
3 - once every few months
2 - about once a year
1 - very rarely or never

46. To what extent did you achieve your self-improvement objectives during the past year?

(Failed considerably)			(To moderate extent)			(Greatly exceeded)
1	2	3	4	5	6	7

47. How <u>often</u> do you receive <u>praise</u> from your boss when you <u>achieve</u> your <u>job performance</u> objectives?

(Never)			(About half the time)			(Always)
1	2	3	4	5	6	7

48. How <u>often</u> do you receive <u>criticism</u> from your boss when you <u>fail</u> to achieve your job performance objectives?

(Never)			(About half the time)			(Always)
1	2	3	4	5	6	7

49. How <u>concerned</u> is your boss if you fail to achieve your job performance objectives to a significant degree?

(Not at all)			(Moderately)			(Greatly)
1	2	3	4	5	6	7

50. In general, how much <u>time</u> does your boss devote to setting and reviewing <u>your</u> objectives?

(None)			A moderate amount)			(A great amount)
1	2	3	4	5	6	7

51. How <u>important</u> do you think your <u>boss</u> considers your job performance objectives to be?

(Unimportant)			(Moderately important)			(Extremely important)
1	2	3	4	5	6	7

52. How <u>important</u> do you think your <u>boss</u> considers your self-improvement objectives to be?

(Unimportant)			(Moderately important)			(Extremely important)
1	2	3	4	5	6	7

53. How <u>important</u> do you think <u>people at higher levels</u> than your boss consider your job performance objectives to be?

(Unimportant)			(Moderately important)			(Extremely important)
1	2	3	4	5	6	7

54. How important do you think people at higher levels than your boss consider your self-improvement objectives to be?

(Unimportant)			(Moderately important)			(Extremely important)
1	2	3	4	5	6	7

55. To what extent do you expect to achieve your job performance objectives during the coming year?

(Fail considerably)			(Approximately meet)			(Greatly exceed)
1	2	3	4	5	6	7

56. To what extent do you expect to achieve your self-improvement objectives during the coming year?

(Fail considerably)			(Approximately meet)			(Greatly exceed)
1	2	3	4	5	6	7

57. How important is it to you that you achieve your job performance objective?

(Unimportant)			(Of moderate importance)			(Of great importance)
1	2	3	4	5	6	7

58. How important is it to you that you achieve your self-improvement objectives?

(Unimportant)			(Of moderate importance)			(Of great importance)
1	2	3	4	5	6	7

Job Characteristics

Please place a check (✓) mark in the space beside the response which best describes your opinion. Please be frank. Please answer every question.

59. If the other people you have contact with on the job don't do their jobs right or on time, how often would this create problems for your own work?

If this happened, it would create problems for my work:

(5) _____ Almost always
(4) _____ Usually
(3) _____ About half the time
(2) _____ Occasionally
(1) _____ Very rarely or never

60. How many people with whom you have contact on the job could create problems for your work if they didn't do their jobs right or on time?

(0) _____ None of them could create problems for me
(1) _____ One
(2) _____ Two
(3) _____ Three
(4) _____ Four
(5) _____ Five to ten
(6) _____ More than ten could create problems for me

61. If you didn't do a good job on something or didn't do it fast enough, how often would this create problems for someone you have contact with on the job?

If this happened, it would create problems for someone I have contact with:

(5) _____ Almost always
(4) _____ Usually
(3) _____ About half the time
(2) _____ Occasionally
(1) _____ Very rarely or never

62. If you didn't do your own job right, for how many other people with whom you have contact on the job would this create problems?

(0) _____ None of them would have problems
(1) _____ One
(2) _____ Two
(3) _____ Three
(4) _____ Four
(5) _____ Five to ten
(6) _____ More than ten of them would have problems

63. To what extent are you able to control the means of reaching your performance objectives?

(5)_____ Entirely
(4)_____ Quite a lot
(3)_____ Somewhat
(2)_____ Very little
(1)_____ Not at all

64. Sometimes changes in the way a job is done are more trouble than they are worth because they create a lot of problems and confusion. How often do you feel that changes which have affected you and your job at _____ have been like this?

(1) _____ 50% or more of the changes have been more trouble than they are worth
(2) _____ About 40% of the changes
(3) _____ About 25% of the changes
(4) _____ About 15% of the changes
(5) _____ Only 5% or fewer of the changes have been more trouble then they are worth

65. From time to time changes in policies, procedures, and equipment are introduced by the management. How often do these changes lead to better ways of doing things?

(1) _____ Changes of this kind never improve things
(2) _____ They seldom do
(3) _____ About half of the time they do
(4) _____ Most of the time they do
(5) _____ Changes of this kind are always an improvement

66. How well do the various people in the plant or offices who are affected by these changes accept them?

(1) _____ Very few of the people involved accept the changes
(2) _____ Less than half do
(3) _____ About half of them do
(4) _____ Most of them do
(5) _____ Practically all of the people involved accept the changes

67. Within the past year, have there been any changes in the way your job is done--like in the equipment you work with, the work procedures, the job standards and requirements, the kind of records you have to keep, etc? (Answer only for changes affecting you in your present job classification.)

(1) _____ No changes; my work is done exactly the way it was a year ago
(2) _____ One or two changes; but it is not too different
(3) _____ A few changes; it is a little different now
(4) _____ Quite a few changes; things are fairly different
(5) _____ Many changes; my work is almost completely different now from the way it was a year ago

68. In general, how do you now feel about changes during the past year that affected the way your job is done?

(1) _____ Made things somewhat worse
(2) _____ Not improved things at all
(3) _____ Not improved things very much
(4) _____ Improved things somewhat
(5) _____ Been a big improvement
_____ There have been no changes in my job in the past year

69. During the past year when changes were introduced that affected the way your job is done, how did you feel about them at first?

(1) _____ Make things somewhat worse
(2) _____ Not improve things at all
(3) _____ Not improve things very much
(4) _____ Improve things somewhat
(5) _____ Be a big improvement
_____ There have been no changes in my job in the past year

70. In your kind of work, if a person tries to change his usual way of doing things, how does it generally turn out?

(1) _____ Usually turns out worse; the tried and true methods work best in my work
(3) _____ Usually doesn't make much difference
(5) _____ Usually turns out better; our methods need improvement

71. Some people prefer doing a job in pretty much the same way because this way they can count on always doing a good job. Others like to go out of their way in order to think up new ways of doing things. How is it with you on your job?

(1) _____ I always prefer doing things pretty much in the same way
(2) _____ I mostly prefer doing things pretty much in the same way
(4) _____ I mostly prefer doing things in new and different ways
(5) _____ I always prefer doing things in new and different ways

72. How often do you try out, on your own, a better or faster way of doing something on the job?

(5) _____ Once a week or more often
(4) _____ Two or three times a month
(3) _____ About once a month
(2) _____ Every few months
(1) _____ Rarely or never

73. How often do you get chances to try out your own ideas on your job, either before or after checking with your supervisor?

(5) _____ Several times a week or more
(4) _____ About once a week
(3) _____ Several times a month
(2) _____ About once a month
(1) _____ Less than once a month

74. In my kind of job, it is usually better to let your supervisor worry about new or better ways of doing things.

(1) _____ Strongly agree
(2) _____ Mostly agree
(4) _____ Mostly disagree
(5) _____ Strongly disagree

75. How many times in the past year have you suggested to your supervisor a different or better way of doing something on the job?

(1) _____ Never had occasion to do this during the past year
(2) _____ Once or twice
(3) _____ About three times
(4) _____ About five times
(5) _____ Six to ten times
(6) _____ More than ten times had occasion to do this during the past year

76. How free do you feel to disagree with your immediate supervisor to his face?

(1) _____ It is better not to disagree
(2) _____ I would hesitate some before disagreeing
(4) _____ I would hesitate only a little
(5) _____ I would not hesitate at all to disagree to his face

77. How many times during the past year have you told one of your supervisors about some policy or procedure on the job which you did not like?

(1) _____ Never during the past year
(2) _____ Once
(3) _____ Twice
(4) _____ Three times
(5) _____ About five times
(6) _____ Six to ten times
(7) _____ More than ten times

78. On most days on your job, how often does time seem to drag for you?

(1) _____ About half the day or more
(2) _____ About one-third of the day
(3) _____ About one-quarter of the day
(4) _____ About one-eighth of the day
(5) _____ Time never seems to drag

79. Some people are completely involved in their job - they are absorbed in it night and day. For other people, their job is simply one of several interests. How involved do you feel in your job?

(1) _____ Very little involved; my other interests are more absorbing
(2) _____ Slightly involved
(3) _____ Moderately involved; my job and my other interests are equally absorbing to me
(4) _____ Strongly involved
(5) _____ Very strongly involved; my work is the most absorbing interest in my life

80. How often do you do some extra work for your job which is not really required of you?

(5) _____ Almost every day
(4) _____ Several times a week
(3) _____ About once a week
(2) _____ Once every few weeks
(1) _____ About once a month or less

81. Would you say you work harder, less hard, or about the same as other people doing your type of work?

(5) _____ Much harder than most others
(4) _____ A little harder than most others
(3) _____ About the same as most others
(2) _____ A little less hard than most others
(1) _____ Much less hard than most others

82. If you could begin working over again, but in the same occupation as you are in now, how likely would you be to choose _____ as a place to work?

(1) _____ Definitely would choose another place over _____
(2) _____ Probably would choose another place over _____
(3) _____ Would not care much whether it was this or some other place
(4) _____ Probably would choose this over another place
(5) _____ Definitely would choose this over another place for my occupation

83. How do you feel when you hear (or read about) someone criticizing the _____ Government?

(1) _____ I mostly agree with the criticism
(2) _____ It does not bother me
(4) _____ It gets me a little mad
(5) _____ It gets me quite mad
_____ I never hear or read such criticism

84. If you have or were to have a son, how would you feel if someone suggested that he work for the _____ Government?

(If you are a woman, answer for a daughter.)

(5) _____ Would completely approve
(4) _____ Would generally approve, but with some reservations
(3) _____ Would neither approve nor disapprove
(2) _____ Would disapprove a little
(1) _____ Would strongly disapprove

85. In general, how often do you tell someone in your immediate family (husband, wife, child, parent, brother, sister) about some project that the _____ _____ Government has done or is doing?

(5) _____ Once a week or more
(4) _____ Several times a month
(3) _____ About once a month
(2) _____ Once every few months
(1) _____ About once a year
_____ Do not have any immediate family to talk to

86. In general, how often do you tell someone <u>outside</u> your immediate family (friend, neighbor, store clerk, etc.) about some project that the _____ _____ Government has done or is doing?

(5) _____ Once a week or more
(4) _____ Several times a month
(3) _____ About once a month
(2) _____ About every few months
(1) _____ About once a year

87. In comparison to the performance of other employees of your department doing the same general kinds of work as you, how do you rate your job performance?

(6) _____ In the top 5%
(5) _____ In the top 10% (but not upper 5%)
(4) _____ In the top 25% (but not upper 10%)
(3) _____ In the top 50% (but not upper 25%)
(2) _____ In the top 75% (but not upper 50%)
(1) _____ In the lower 25%

88. In comparison to the performance of other employees of your department doing the same general kinds of work as you, how do you rate the amount of effort you put forth on your job, that is, how hard you work?

(6) _____ In the top 5%
(5) _____ In the top 10% (but not upper 5%)
(4) _____ In the top 25% (but not upper 10%)
(3) _____ In the top 50% (but not upper 25%)
(2) _____ In the top 75% (but not upper 50%)
(1) _____ In the lower 25%

89. In your opinion, how much will the extent to which you achieve your job performance objectives affect <u>your</u> future <u>salary</u> increases?

(Not at all)			(Moderately)			(Greatly)
1	2	3	4	5	6	7

90. In your opinion, how much will the extent to which you achieve your job performance objectives affect <u>your</u> future <u>promotions</u>?

(Not at all)			(Moderately)			(Greatly)
1	2	3	4	5	6	7

91. To what extent did you achieve your job performance objectives <u>during the past year</u>?

(Failed considerably)			(To a moderate extent)			(Greatly exceeded)
1	2	3	4	5	6	7

In some organizations, everyone gets told exactly what he ought to be doing, when it must be finished, and how he should do it. In other organizations, people get to decide such things for themselves, or at least have some influence over the decisions. We are interested in how much influence you have in your present job in making these decisions.

Thinking about the way things generally happen IN YOUR PRESENT JOB, how much influence do you feel you personally have in:

(Please circle the number which expresses your opinion)

92. Deciding what is to be accomplished.

(No influence at all)						(A great deal of influence)
1	2	3	4	5	6	7

93. Deciding on a timetable or deadlines.

(No influence at all)						(A great deal of influence)
1	2	3	4	5	6	7

94. Deciding how the work will be done.

(No influence at all)						(A great deal of influence)
1	2	3	4	5	6	7

95. Deciding on who will do the work.

(No influence at all)						(A great deal of influence)
1	2	3	4	5	6	7

Reactions to your Job

Please answer each question so as to show how you feel. You can do this by placing an "X" below the point on each scale which best describes your opinion, as in the example below:

None	Very Few	A Few	Quite A Few	A Great Many	All
___	___	___	X	___	___

The only correct answer is your frank opinion. Please answer every question. Mark only one response for each question.

96. Think about the specific duties of your job. How often have you felt unable to use your full capabilities in the performance of your job?

Almost always	Very Often	Fairly Often	Not very Often	Very Seldom	Almost Never
_____	_____	_____	_____	_____	_____

97. How often have you felt that you were not being kept informed about what was going on in your department?

Almost always	Very Often	Fairly Often	Not very Often	Very Seldom	Almost Never
_____	_____	_____	_____	_____	_____

98. How many functions do you perform on your job which you consider relatively unimportant or unnecessary?

Almost all of them	Most of them	Quite a few	A Few	Very Few	None of them
_____	_____	_____	_____	_____	_____

99. As you see it, how many opportunities do you feel you have in your job for making worthwhile contributions?

Almost none	Very few	A Few	Quite a Few	A Great Many	Unlimited
_____	_____	_____	_____	_____	_____

100. How often do you feel that your job is one that could be dropped?

Almost all the Time	Most of the Time	Quite Often	Very Seldom	Almost Never	Never
_____	_____	_____	_____	_____	_____

101. How much say do you feel you have in deciding how your job is to be carried out?

None	Almost None	Very Little	Fairly Large Amount	Very Large Amount	Unlimited Amount
_____	_____	_____	_____	_____	_____

102. How frequently have you felt in your job that you could accomplish more if you could have complete freedom of action to accomplish your objectives?

Almost all the time	Most of the time	Quite Often	Not Too Often	Very Seldom	Almost Never
_____	_____	_____	_____	_____	_____

103. How frequently on your job have you received some type of recognition for your accomplishments?

Almost Never	Very Seldom	Not Too Often	Quite Often	Very Often	A Great Many Times
_____	_____	_____	_____	_____	_____

104. How often does your job, as presently structured, give you opportunities for personal recognition?

Almost Never	Very Seldom	Not Too Often	Quite Often	Very Often	A Great Many Times
_____	_____	_____	_____	_____	_____

105. How do you feel about your present assignment as a job where you can continually learn?

Nothing More to Learn On it	Practically Nothing to Learn	Can Learn Something But Not Much	Still Can Learn a Little	Can Still Learn a Lot on it	Can Still Learn a Great Deal
_____	_____	_____	_____	_____	_____

106. How do you feel about your general association with _____ Government as an opportunity for learning a lot?

Provides No Chance For Learning	Provides Almost No Chance	Can Learn Something But Not Much	Can Learn a Little	Can Learn a Lot	Can Learn a Great Deal
_____	_____	_____	_____	_____	_____

107. Outside of any regular measurements of your job (indexes or performance standards), how often have you inwardly felt you have achieved something really worthwhile?

Very Seldom	Once In a While	Fairly Often	Often	Very Often	All The Time
_____	_____	_____	_____	_____	_____

108. To what extent is it possible to know whether you are doing well or poorly on your job?

No Way of Knowing	Almost No Way of Knowing	To Some Extent	To a Large Extent	Great Extent	Entirely Possible
_____	_____	_____	_____	_____	_____

109. To what extent is it possible for you to introduce new (untried) ideas on your job?

To No Extent	Almost No Extent	Very Little Extent	Fairly Large Extent	Very Large Extent	A Great Extent
_____	_____	_____	_____	_____	_____

110. How often have you found the kind of work you are now doing to be interesting?

Almost Never	Very Seldom	Not Too Often	Quite Often	Very Often	Almost Always
_____	_____	_____	_____	_____	_____

111. Based on your past experience in your present job, how often have you thought that you would like to quit or change jobs?

Very Often	Often	Fairly Often	Once In a While	Very Seldom	Almost Never
_____	_____	_____	_____	_____	_____

112. To what extent do you consider your present assignment helpful for a person who wants to be advanced in _____ Government.

Almost No Extent	Very Little Extent	Not Very Helpful	Fairly Helpful	Very Helpful	Extremely Helpful
_____	_____	_____	_____	_____	_____

SOME OTHER AREAS

Listed below are a number of statements which have been made, both inside and outside _____ Government, by people talking about their jobs. There's no particular theme to them, except they all refer to the speaker's job or the organization he works for; some are critical, some complimentary.

What is of interest is whether you agree with these statements or not. That is, do you think they apply to your job, your organization, or the people you work with. You can indicate the extent of your agreement or disagreement with each statement by circling one letter on the scale provided next to each statement. The scales look like this:

A a ? d D

and are interpreted as follows:

A means "I strongly agree with the statement."

a means "I somewhat agree with the statement."

? means "I neither agree nor disagree with the statement."

d means "I somewhat disagree with the statement."

D means "I strongly disagree with the statement."

For each statement, please circle the letter that most nearly reflects your view.

A a ? d D 1. My workload is greater than it should be.

A a ? d D 2. People in my department are kept well-informed of what's taking place throughout the department.

A a ? d D 3. The top management in _____ Government is very responsive to the ideas of people at lower levels in the organization.

A a ? d D 4. "Rap" sessions at which people at all levels could better communicate with people at other levels are very much needed in my department.

A a ? d D 5. "Rap" sessions are really needed in other departments.

A a ? d D 6. Top management does not give enough "backing" to people at other levels.

A a ? d D 7. _____ Government is very modern in its approach.

A a ? d D 8. It is very easy to get procedures changed in this department.

A a ? d D 9. Civil Service personnel policies are not well understood by _____employees.

A a ? d D 10. Coordination among different departments does not exist.

A a ? d D 11. _____Government needs career development plans for its employees.

A a ? d D 12. Legal requirements prevent needed changes from being made.

A a ? d D 13. Promotion policies in this department are not fair.

A a ? d D 14. Overtime policies are fair to employees.

A a ? d D 15. Job responsibilities for _____ employees are not accurately defined.

A a ? d D 16. Top management does not realize how many responsibilities some groups have.

A a ? d D 17. Top management gets an unfair proportion of pay increases.

A a ? d D 18. Good procedures exist for getting the work done when key employees are absent.

A a ? d D 19. There should be more emphasis on quality of work and less emphasis on quantity.

A a ? d D 20. Congeniality of employees is a real strength in this department.

A a ? d D 21. Supervisors are sometimes too "nit-picky" with their subordinates.

A a ? d D 22. Things are continually getting better.

A a ? d D 23. Around here it is easy to get criticized, but difficult to get praised.

A a ? d D 24. I wish I had more control over my work.

A a ? d D 25. My job contains too many menial tasks.

A a ? d D 26. People need more training, especially for new computer systems.

A a ? d D 27. Many jobs in my department are under paid.

A a ? d D 28. We need more space in our department.

A a ? d D 29. Citizens of _____ do not have enough voice in government.

A a ? d D 30. Civil Service exams are quite relevant to job openings.

A a ? d D 31. The sign-in/sign-out procedures in my department are good.

A a ? d D 32. Individual job performance appraisals would be good to have in my department.

A a ? d D 33. Promotions are too frequently given to outsiders instead of insiders.

A a ? d D 34. It is often difficult to schedule compensatory time off when you want it.

A a ? d D 35. College degrees are a requirement for advancement in this department.

A a ? d D 36. This department has too many chiefs and too few indians.

A a ? d D 37. People who have been in this department the longest are not treated fairly.

A a ? d D 38. This department is loosing sight of its real responsibilities and functions.

A a ? d D 39. This department pulls together as a team.

A a ? d D 40. Organizational lines are not well-defined.

A a ? d D 41. My department gets a sufficient amount of direction from the _____ Manager.

A a ? d D 42. My department does <u>not</u> get enough direction from the Board of Commissioners.

A a ? d D 43. My department is <u>not</u> responsive to the real needs of the citizens of _____.

A a ? d D 44. A comprehensive statement of the overall goals of the _____ _____Government is badly needed.

A a ? d D 45. The administrative paper work required in my job prevents me from spending enough time on the really meaningful parts of the job.

A a ? d D 46. My department gets sufficient direction from our judges.

A a ? d D 47. Judges always give full consideration to the recommendations of probation officers in making their decisions.

A a ? d D 48. My department is doing a very effective job in rehabilitating offenders.

A a ? d D 49. Recidivism rates are the best measures of my department's performance.

A a ? d D 50. Studies of this type are a waste of time.

Regardless of whether you agreed with that last statement or not, thanks very much for cooperating in this study. I really appreciate the time and trouble you have taken. I've left the rest of this sheet blank so that you can write in any comments, either on the questionnaire or on the study as a whole.

Again, thank you very much for your cooperation!

APPENDIX B

RETEST INSTRUMENT

Sample

Cover Letter Sample

To: All Participants in the _____Government Organization Study

From: Leo G. Parrish, Jr.

Thank you for completing and returning the_____ Government Organization Study Questionnaire. The data is presently being tabulated, and feedback will be provided to your department later this year.

To help me get a better understanding of your organization, please take about 10 to 15 minutes to answer the attached questions. Some of the questions are similar to those included in the first questionnaire, while others concern how you think certain important events in our society affect different people. Please follow the directions given for each set of questions.

I will treat your responses in the same confidential manner which I outlined in the first questionnaire. Please answer all questions as frankly as possible.

I am including a mail-back envelope addressed to me in Room 400 of the Administration Building. Please return your completed questions to me within 10 days.

Thank you very much for your continued cooperation.

Leo G. Parrish, Jr.

Leo G. Parrish, Jr.

Social Reaction Inventory

The first four pages of the retest instrument consisted of the Internal-External Control Belief Scale (Rotter, 1966). The final several pages of the instrument included approximately one-seventh of the original Questionnaire 1 items. One of the retest item sets is shown on the next two pages of this appendix.

SOME OTHER AREAS

Listed below are a number of statements which have been made, both inside and outside _____ Government, by people talking about their jobs. There's no particular theme to them, except they all refer to the speaker's job or the organization he works for; some are critical, some complimentary.

What is of interest is whether you agree with these statements or not. That is, do you think they apply to your job, your organization, or the people you work with. You can indicate the extent of your agreement or disagreement with each statement by circling one letter on the scale provided next to each statement. The scales look like this:

A a ? d D

and are interpreted as follows:

A means "I strongly agree with the statement."

a means "I somewhat agree with the statement."

? means "I neither agree nor disagree with the statement."

d means "I somewhat disagree with the statement."

D means "I strongly disagree with the statement."

For each statement, please circle the letter that most nearly reflects your view.

A a ? d D 1. My workload is greater than it should be.

A a ? d D 2. People in my department are kept well-informed of what's taking place throughout the department.

A a ? d D 3. The top management in _____ Government is very responsive to the ideas of people at lower levels in the organization.

A a ? d D 4. "Rap" sessions at which people at all levels could better communicate with people at other levels are very much needed in my department.

A a ? d D 5. "Rap" sessions are really needed in other departments.

A a ? d D 6. Top management does not give enough "backing" to people at other levels.

A a ? d D 7. _____ Government is very modern in its approach.

A a ? d D 8. It is very easy to get procedures changed in this department.

A a ? d D 9. Civil Service personnel policies are not well understood by _____employees.

A a ? d D 10. Coordination among different departments does not exist.

A a ? d D 11. _____Government needs career development plans for its employees.

A a ? d D 12. Legal requirements prevent needed changes from being made.

A a ? d D 13. Promotion policies in this department are not fair.

A a ? d D 14. Overtime policies are fair to employees.

A a ? d D 15. Job responsibilities for _____ employees are not accurately defined.

A a ? d D 16. Top management does not realize how many responsibilities some groups have.

A a ? d D 17. Top management gets an unfair proportion of pay increases.

A a ? d D 18. Good procedures exist for getting the work done when key employees are absent.

A a ? d D 19. There should be more emphasis on quality of work and less emphasis on quantity.

A a ? d D 20. Congeniality of employees is a real strength in this department.

A a ? d D 21. Supervisors are sometimes too "nit-picky" with their subordinates.

A a ? d D 22. Things are continually getting better.

A a ? d D 23. Around here it is easy to get criticized, but difficult to get praised.

A a ? d D 24. I wish I had more control over my work.

A a ? d D 25. My job contains too many menial tasks.

A a ? d D 26. People need more training, especially for new computer systems.

A a ? d D 27. Many jobs in my department are under paid.

Again, thank you for your cooperation. Please return to: Leo Parrish

APPENDIX C

QUESTIONNAIRE 2

Cover Letter Sample

To: All participants in the _____ Government Organization Study

From: Leo G. Parrish, Jr.

Attached is the final questionnaire in the current _____Government Organization Study. Whether or not you completed the first questionnaire, your help in completing and returning this questionnaire is vitally needed for success of the total study. Your participation is crucial for the study results to be valid!

Please be completely frank in your answers. Great pains have been and will continue to be taken to insure confidentiality (see note on page 2). The study results will be meaningful and useful only to the extent that full, frank participation is obtained.

Within three weeks after these questionnaires have been returned to me, I will attempt to have summary data covering the entire study ready for feedback to your department. So that this data will be available soon, please make every effort to return your completed questionnaire within the next week or ten days.

I am including a mail-back envelope addressed to me in Room 400 of the Administration Building for your use in returning your questionnaire. Your time and interest in this study is greatly appreciated.

Leo G. Parrish, Jr.
School of Industrial and Systems Engineering
Georgia Tech

Serial No. _____

Questionnaire 2

Cover Sheet Sample

_____GOVERNMENT

ORGANIZATION STUDY

PART II

Confidential

Questionnaire 2
Page 26--Sample

A a ? d D 46. My department gets sufficient direction from our judges.

A a ? d D 47. Judges always give full consideration to the recommendations of probation officers in making their decisions.

A a ? d D 48. My department is doing a very effective job in rehabilitating offenders.

A a ? d D 49. Recidivism rates are the best measures of my department's performance.

A a ? d D 50. Studies of this type are a waste of time.

A final area of interest is how you rate your own job performance as compared with how you believe the top management of your department rates your job performance. Please answer each of the following questions by circling one number from one to five, where 5 = outstanding, 4 = above average, 3 = average, 2 = below average, and 1 = unsatisfactory.

1 2 3 4 5 a. How do you rate the quality (accuracy, neatness, completeness, thoroughness, etc.) of your work?

1 2 3 4 5 b. How does top management rate the quality of your work?

1 2 3 4 5 c. How do you rate the quantity (amount, promptness of completion, etc.) of your work?

1 2 3 4 5 d. How does top management rate the quantity of your work?

1 2 3 4 5 e. How do you rate your overall effectiveness (considering quality, quantity, and any other factors you consider important?

1 2 3 4 5 f. How does top management rate your overall effectiveness?

Your cooperation in this study is greatly appreciated. Please use the bottom or back of this sheet to write in any comments you have. If you have been exposed to "Management by Objectives" during the past year, please state what you think of that approach to management. Again, many thanks.

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Leo Gillis Parrish, Jr., was born October 5, 1939, in Atlanta Georgia. He was graduated from Russell High School, East Point, Georgia, in June, 1957, and he entered the Georgia Institute of Technology in September, 1957. He graduated "with honor" in June, 1961, receiving a Bachelor of Electrical Engineering.

He was employed briefly by Texas Instruments, Inc., as an associate engineer before entering active duty with the U. S. Army Signal Corps as a Second Lieutenant. Following his release from active duty, Mr. Parrish returned to the Georgia Institute of Technology where he did graduate work in the School of Industrial Management, receiving a Master of Science in Industrial Management in March, 1964.

From 1964 to 1971 he held engineering and management positions with the Long Lines Department of the American Telephone and Telegraph Company, including the positions of Customer Service Engineer in Atlanta and Transmission Engineer and District Operations Manager in New York. Mr. Parrish enrolled in the School of Industrial and Systems Engineering at the Georgia Institute of Technology in March, 1971, and was awarded the Ph.D. degree in December, 1973.